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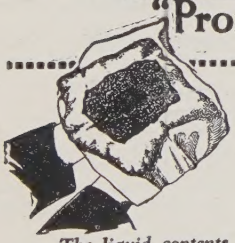

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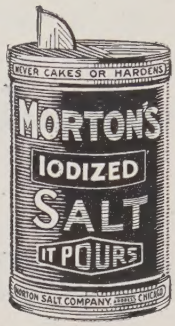

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Vol. XLVII JUNE, 1925 No. 6

ORIGINAL ARTICLES

Toxic Goiter and Post-Operative Mania

Kerwin W. Kinard, A.B., M.D., F.A.C.S.

A toxic goiter occasionally seems to be the cause of acute mania. This serious complication occurs both in medical and surgical cases. Very often the patient has been neglected by the doctor who has held on too long to his medical treatment in an endeavor to successfully treat a toxic goiter; perhaps the roentgenologist has consumed some time in treating unsuccessfully a toxic adenoma; or perhaps the surgeon who operated failed to remove sufficient gland at the primary operation and the patient refused secondary operation. In many cases, however, the cause must revert to the patient who does not remain long enough with any one doctor for him to work out a plan of attack on this type of goiter to cure his patient early and with an ultimately fair degree of permanency.

Anyone doing thyroid surgery must, sooner or later, meet up with this distressing situation as a post-operative complication.

The various forms of insanity associated with goiter have been written about from the standpoint of the internist but not a great deal has been said by the surgeon.

In an experience of over fourteen hundred operated cases which Dr. E. G. Blair and the writer have had, we have met up with thyrotoxicosis associated with goiter four times. The outcome has been rapidly fatal in these cases and it is with the idea in mind that these deaths were unnecessary that this paper has been written.

Much delay has occurred in the institution of the treatment of toxic adenomas. They are all surgical cases, and the earlier surgery is instituted the more rapid will be the return toward normal, unassociated with various psychoses and neuroses.

We are only beginning to realize that Graves' disease is not entirely a thyroid disorder but that the thyroid probably is only a link in the chain of disturbance in this disease. Much remains to be

said about this condition as in reality its etiology is still uncertain.

We have failed to realize what severe trauma an operation in one stage is to a person with a susceptible nervous system and a deranged cardio-vascular system, both already poisoned by a goiter.

Any severe or continued fever causes a disintegration of body tissue with resulting leukomains, which are disseminated to the entire organism through the blood and lymph. Certain poisons have a selective action for breaking down certain tissues. All toxemias exert an influence on the nervous system, and their various manifestations are usually more severe when the toxicity is great and the bodily resistance is lessened. Typhoid fever and pneumonia are examples of diseases in which nervous manifestations may be variable according to the severity of the individual case, where as tetanus always is attended by severe reaction on the part of the central nervous system. Thyrotoicosis gives a definite reaction.

Fever is the systemic reaction to toxemia due to infection, and is therefore a symptom indicating usually an effort at resistance on the part of the individual. If this individual happens to have inherited an unstable nervous system, one expects to find a more marked toxic effect, and the results are supposedly more severe than to a normal person likewise afflicted. Also more permanency of effect may be expected in the former case than in the latter.

We know that thyroid hyperplasias, as manifested clinically by so-called toxic goiters, throw into the circulation a secretion which may cause, or result in, other endocrine gland changes. The normal thyroid hormone is either secreted and absorbed in excessive quantity or else there is a changed fabrication thrown into the system which reacts as a toxin, resulting in the ultimate development of fever as a symptom of the malady.

Spitzka, years ago, believed the toxin responsible for Bell's mania was developed as an autochthonous nerve poison, but actually the cause has never been discovered. One seldom hears of Bell's mania nowadays. In fact it seems to have lost its identity in the text books as a special form of delirium. Yet this delirium is very much like acute thyrotoxicosis, except that no goiter was ever found in Bell's mania.

We have seen cases of thyrotoxicosis which resembled symptomatically the classical description in Osler's text book, earlier edition, of Bell's mania. If Bell had described the presence of hyperthyroidism as such, associated with goiter, Bell's mania with its hyperpyrexia, maniacal exhilaration, prostration and death would have been easily understood, because the clinical manifestations are like those of thyroid mania. As it is, Bell's delirium has been lost as an entity, never having had any pathology demonstrable.

Galen was able to classify clinically as early as 160 A.D. imbecility, dementia, melancholia and mania and recognized these types of insanity as resulting from primary disease of the brain, as well as from secondarily sympathetic visceral sources.

Psychoses which may be encountered elsewhere may appear with a thyroid derangement. The onset of such a psychosis has been shown to depend sometimes on factors other than a deranged nervous system. It may occur in a goitrous woman, physiologically, during adolescence, pregnancy or menopause. Here probably is found at this time no infection, but some unusual bio-chemical influence is produced on the nervous system by these physiological factors. During pregnancy additional toxic factors

may be contributory, which are not present during adolescence or the menopause. These factors are probably of endocrine origin. Fever may occur; but is probably due to some type of toxic katabolism when present.

Church and Peterson believe that the symptoms developed from these premanic thyroid toxicoses are gradual in onset, occurring without the individual's realization that they are becoming irritable and having nights of restlessness or incomplete sleep, and upon waking up they feel nervous and often have a headache. When these symptoms accumulate and palpitation of the heart associated with shortness of breath becomes manifest, they understand that something has happened to their physical well being. Soon they may notice a tremor and are aware that they are not able to carry on their usual routine work as well as formerly. At this time they consult their physician for nerve trouble, not associating their symptoms with the presence of a goiter.

Insanity does not seem to depend entirely upon hyperthyroidism for its inception or development, because Hammes found the manic depressive syndrome present in cases of hypothyroidism. Remadier and Marchana found no more goiters present among the insane than among the sane in a given goiter area.

Foss and Jackson show in a recent report of 49 cases of insanity in patients having goiter that no systemic toxemia was noted. Adenomatous hyperplasia was found by them in all cases except 14, which belonged to the clinically defective group. The others showed mania, dementia or melancholia. We believe that hyperplasia without some systemic reaction is most unusual.

Woodbury admits that some patients with goiter become insane and believes that many cases show psycho-neuroses which are thyroidal in origin.

We believe with Barker, Massarotti and others that few, if any, cases of goiter develop acute insanity unless they have a nervous system which is abnormal. Under duress of such a nervous system, whether hereditarily tainted or otherwise acquired, a patient with a goiter which shows signs of toxicity may manifest any of the varying forms of so-called psychoses, neuroses or higher forms of abnormal cerebral activity.

Raymond and Serieux stress a point of added importance in saying that a tainted nervous system may show no evidence of instability until some severe shock occurs to the individual, which may promote a severe reaction and be contributory to Graves' disease when it occurs.

Bleuler states that the mental disconcertedness so often seen in cases of thyroid toxicosis rarely develops into acute mania except in an highly neurotic individual.

Most authorities, as shown, seem to agree that an individual with a normal nervous system may develop a thyrotoxicosis which will rarely, if ever, culminate in acute maniacal insanity.

Let us briefly consider the symptoms and mode of onset of acute mania in thyrotoxicosis. The anamnesis of such a patient usually develops the fact that she has been erratic, and has been considered queer by her friends for some years past. She may have a noticeably enlarged thyroid or it may be barely discernible. She may notice an occasional headache and feel nervous but usually can give a reason for it. Soon she finds she does not sleep soundly, dreams more than usual and does not wake refreshed in the morning. After several weeks her hands become tremulous and she feels tired and irritable. Almost simultaneously she becomes short of breath on moderate exertion and is conscious of her heart pounding and being rapid in rate. She has cycles of depression following in the

wake of other symptoms and consults a physician for nervousness and a feeling of being physically tired out. At this time much can be accomplished if the condition is recognized and proper treatment instituted, but a failure of recognition and delay in treatment allows the development of increased symptomatology. The patient notices a change in her disposition for the worse and the daily routine of life becomes irksome to her and general dissatisfaction with things is apparent. A mental erethism is found which causes an early abnormal mental stimulation. She thinks she accomplishes more than previously, only to find her physical response less active. She becomes apprehensive and suspicious during the following months, has crying spells, and develops excito-motor activity which keeps her constantly on the move. When she attempts to do something, she remembers something more important elsewhere, that must be immediately done. Nothing is ever finished. As time lapses it becomes more difficult to concentrate for reading or even to sit through some entertainment. She has her mind constantly on herself and this mental over-activity gradually brings on bodily fatigue with its concomitant dyspnoea. She is irrascible, fault-finding and unappreciative of things done for her. Bleuler says these patients have great mobility of ideas without persistent concentration or logical order. They soon lose weight and strength in spite of an excessive appetite and must go to bed. They have terrifying dreams at times to which they react when awake, which form a nucleus from which are later developed systematized delusions as well as hallucinations of sight and hearing. It is interesting to note that the severe toxicity, such as is often seen in post-operative reactions, often occurs where operation has not been performed and death usually occurs either way; that death so terrible to watch, where the total annihilation of the thermic center allows a hyperpyrexia of 108-109 degrees Fahrenheit and the patient is hopeless and the doctor helpless. Early recognition of these cases is necessary so that proper treatment may be instituted.

The patients often die during this excito motor stage in acute delirium, yelling or tossing about so violently that it is most difficult to restrain them. This activity continues until the bodily fatigue amounts to complete physical exhaustion and cardiac failure. The hyperpyrexia is always intense as our cases will show.

If death does not occur at this time, the case passes into a chronic form of mania and convalescence which usually is dragged over a long period of time according to statements of our phychiatrists. When the severity abates, the patient improves and has better health. The prevailing emotional tone has been said to be one of maniacal conduct associated with variable excitability, insomnia and motor activity. It may terminate or become recrudescent and continue for years. Death in these cases usually is from a terminal dementia or some intercurrent disease.

Let us consider for a moment the pathology which is responsible for this acute maniacal outburst. Hyperplasia means hyperthyroidism as we now know it. Thyrotoxicosis is the severest form of hyperthyroidism we know. Very often hyperplasia is not found in glands removed from patients with slight or moderate clinical hyperthyroidism, but wherever hyperplasia is found in a gland, always clinical evidence may be traced. The size of the thyroid makes little difference.

The papillary intra-acinous hyperplasias seem to fabricate a biochemical substance which is irritating to the nervous as well as the cardio-vascular system. Crile believes likewise the muscles, liver

and suprarenals are affected in Graves' disease. This poison acts strikingly over a period of weeks or months.

The toxic adenomas seem to show the various forms of hyperplasia which, after months or years, fabricate sufficient poison to cause symptoms similar to those developed in cases of Graves' disease. In these we may find adenomatous hyperplasis, engrafted on an old colloid goiter, which has also become greatly degenerated, and seems to be making an effort to continue its work of secretion of the thyroid hormone with insufficient gland to properly carry on. Hence the various forms of primary and secondary adenomatous hyperplasias of both the acinous and interstitial tissue.

When carefully studied many glands are found to be mixed types which show hypertrophy and hyperplasia of both papillary and the heaped up types, as well as degenerations, in different parts of the same gland. Symptoms from such glands are not clear cut, but the type of poison from any of these forms, when in sufficient concentration or excessive amount, may so affect the nervous system as to cause these various forms of psychoses, as well as to cause cardiac hypertrophy due to myocardial and hepatic degeneration, as well as changes to the blood vascular system.

A stable nervous system may show marked clinical reaction to such toxins, and it is quite easy to see that an unstable nervous system, under such conditions, may bring on acute mania.

The early recognition, when possible, and the diagnosis of these cases is effected with the aid of the psychiatrist, and subsequent treatment depends on the resistance of the individual to her toxemia. Operation should be deferred when possible in such cases and, if operation is necessary, the family should be informed of its dangers.

The thyrotoxicosis always has other elements of danger, but if the tainted nervous system be recognized as one of Lues, that condition must be first treated. Should the condition be one of climacteric melancholia, removal of the thyroid will depend upon the severity of the toxicosis, and delay is recommended as long as possible. Removal of the thyroid in such cases will benefit the general condition but have little effect, if any, on the mental condition. Such conditions when summarized depend mainly upon the history and physical examination and these are fortified by the laboratory and X-Ray contributions.

CONCLUSIONS

From the foregoing we wish to conclude that:

1. Acute mania develops in thyrotoxicosis as a post-operative complication, but that this psychosis not infrequently develops in unoperated cases. These deaths are very often the result of neglect; either the medical adviser or the patient's family are to blame, because of delay.

2. Post-operative mania is, in practically all cases, developed through thyrotoxicosis because of an already unstabilized nervous system, resultant in most cases from hereditary or some other influence.

3. Post-operative thyroid mania is a fatal condition, because it is acute and causes extreme hyperpyrexia and muscular effort with eventually exhaustion and physical prostration. The already weakened heart in cases of some years' duration, due to myocardial, vascular and renal changes, soon dilates and death occurs.

4. Post-operative thyroid mania should not occur from operative interference, because a careful study of the case will usually place it in the "bad risk" class, and operation thus will be avoided.

5. The superimposed trauma of a surgical operation on a toxic nervous sys-

tem, due to thyroid toxicosis, may be all that is necessary to carry a patient from a psychosis into an acute mania.

6. Symptoms of thyrotoxicosis, when found in addition to a previous phychosis may be ameliorated by operation with little or no beneficial effect on the mental condition.

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REPORT OF CASES

Case 1—Mrs. F. S. White. Age 32. March, 1913. Married and mother of two children, age 6 and 9 years, respectively. Complained of nervousness, rapid heart, an enlarged neck and some loss in weight. She had always been of a nervous temperament and was very easily upset. Had crying spells, usually worse just before menstrual period. Very irritable and depressed at times. Three years ago the growth in the neck first became observed and she was told it was a goiter. Gradually the symptoms have grown worse. Insomnia at present is marked. Dysphagia causes patient much annoyance and the eyes are bulging. Appetite excessively good. Bowels regular. Increased sex desire. Some loss of weight, annoying dreams at night.

She menstruated at 13 years and always had dysmenorrhoea until after birth of her first child. Since development of her goiter, her periods have come every three weeks. No pain.

On physical examination the patient was very nervous, with marked tremor of fingers, and the body seemed to shake with cardio-aortic pulsation, which was visible over precordium and abdomen. Eyes showed typical exophthalmus and the well known ocular signs were present. Palms of hands sweating, also arm pits showed hyperidrosis. Mentality was disturbed and patient was not sure of anything. Systolic murmur at base of heart, which probably was functional as it was not transmitted. Over-active heart with slight leftsided enlargement.

Abdomen was negative. Temperature 101½ F. Pulse 128. Respiration 18. Thyroid was enlarged as smooth normally shaped small goiter. Fairly firm in consistency, friable and extending from right lobe over and involving the isthmus. The left lobe seemed somewhat enlarged, was firm and gristly to palpation, but not noticeably so on visualization. Operation was advised and done. Ether anesthesia. Operation consisted of a right lobectomy and isthmectomy. Drainage gauze.

First post-operative week was negative except that patient was nervous and inclined to be anxious to be up and home. Wound healed nicely after drain was removed at end of 48 hours. Temperature and pulse became normal.

Patient now was easily agitated and became much more talkative and nervous. Moved about continuously and could not keep still for hours at a time. Later apathy developed and delusions appeared with no increase in pulse rate or temperature. Towards the mid-week patient would eat nothing and suddenly her mentation became very acute. Hallucinations appeared with constant muttering which was unintelligible. Pulse increased rapidly to 140, the patient became more excited and active and died after a gradually increasing temperature during the third week. The fever rose to 106½ F., coma developed, and death occurred from excito-motor exhaustion. Gland showed exophthalmic goiter.

Case 2—Mrs. A. L., 43 years old. White. Married. Four children. 1920.

For six weeks patient had been on rest treatment for severe form of exophthalmic goiter. Symptoms at that time were extreme weakness, most noticeable in legs, nervousness and extreme irritability, marked insomnia, palpitation of heart, tremors and slight fullness in the neck. Pains over precordium were present at times. Slight pigmentation of skin on face.

Patient had always considered herself as strong and healthy. Was always a rather nervous temperament. Her feelings were easily hurt. Had crying spells. Had heart palpitation and frequently became short of breath and developed a pounding in her chest each night, which worried her and kept her awake. She counted each beat, and noticed occasionally a missed beat. Developed marked trembling with weakness and could not sew. Soon became extremely irascible. Easily annoyed and developed a temper at times. Loss of weight 20 pounds and though she had tremendous appetite she could not gain weight. Bowels regular. Family history and past illness were negative, and she menstruated at 14 years of age. Four normal pregnancies and one subsequent miscarriage. Dysmenorrhoea until after birth of first child, then regular but scanty.

Physical examination showed a very nervous and irritable patient. Bodily tremors worse upon slight agitation. Marked cardiac pulsation noted over precordium and in the vessels of the neck. Eyes showed some exophthalmos and Stellwag's and Graefe's signs were present. Pupils equal and reacted promptly to light and accommodation.

Thyroid was normally outlined but enlarged and slightly tender at upper pole on right side. There was purring noted in right-sided vessels. Enlargement of thyroid was uniform and bilateral with more enlargement of the isthmus than usual. Patient inclined to be nervous and moving legs in bed constantly and complaining of the heat of the covers. At times was very irritable and occasionally irrational for short periods. Blood pressure 100/60. Pulse 120. Respiration 20. Temperature 99.8 F. Skin clammy. Weak and unable to walk without assistance. Heart enlarged and over-active with soft systolic murmur at base, not transmitted. Had a pendulous abdomen, lacerated cervix and perinaem. Uterus in good position. Ovaries not palpable. Otherwise signs were negative. Tenderness in left lower iliac region over abdominal aorta and iliac vessels. Urine showed a few hyalin casts. Blood examination was negative. No metabolic rate was made. Operation 9-4-20. Ether anesthesia was used. Operation: Right lobectomy and isthmectomy. Ligation of left inferior thyroid vessels and strangulation of lower left lobe was done.

When patient left for operating room she was in good condition and following her anesthetic of ether her pulse rate rose to 120 per minute, but when she returned from operating room one hour later her pulse was 140 per minute, respiration 40 and temperature 98 F. At 3 P. M. temperature was 98 F. and pulse was 118 with respiration unchanged. Was given Fischer's solution and glucose by bowel every three hours. At this time cyanotic condition appeared which was temporary. One hour later patient became restless and was constantly moving about in bed with a leaky clammy skin (relieved by atropin) but the nervousness and excito-motor activity was made worse. Morphine helped to quiet her for few minutes. An hour later patient was sleeping, but was soon awake again and extremely active, rolling all over bed, moaning and yelling and at ten o'clock had a pulse of 140. Respiration 28. Temperature 97 F. Hallucinations were present. Patient wanted to get out of

bed. At 12 midnight pulse was 164 and respiration 42 with a temperature of 99.4 F. Morphine given. Next morning at 6 A. M. patient voided 400 cc. urine. Restless, excitable and muttering. Needed restraint to keep her in bed. Morphine seemed to aggravate condition. Temperature was rising at this time. At 7:30 heart was beginning to show weakening and some cyanosis developed. One hour later severe cardiac pounding with cyanosis and dysphagia. Temperature 104 F., 9:30 patient comatose, exhausted and died shortly after midnight. Gland showed exophthalmic goiter.

Case 3—Mrs. F. P. Age 38 years. Married. White. One brother erratic and queer. This patient complained of having had a goiter since she was 15 years old, which grew and regressed alternately as the years wore on. Three years prior to coming for consultation she noted shortness of breath and palpitation. Was developing a bad temper and generally was quite unlike her former self. Had delusions of a mild sort. Was irritable and could very easily get into a quarrel, and when she was thoroughly in it she would have a crying spell and get weak, and remorse would follow. She had a good appetite, bowels were regular, and she had lost no weight. Temperature 99, pulse 110, respiration 20. No insomnia.

On examination she had a large bilaterally nodular goiter with the right side the larger and it carried the isthmus with it. The goiter seemed to have some calcerous degeneration present. Moved to hospital and operation under ether anesthesia was done the following morning. A large goiter, nodular and the size of an orange was removed, made up of the lobe and isthmus. No alarming symptoms resulted immediately after operation. Patient was doing very well except that she was irritable at all times. Wound healed very nicely and patient at end of week was ready to go home, but while her toxic symptoms, pulse and temperature were negative, the irritability continued. Developed delusions which became worse during the early part of second week, and developed hallucinations of sight and hearing and had conversations at times with imaginary friends. Muttering of low grade type. During second week she refused food and then the temperature mounted, steadily rising until in the third week, the acute symptoms of restlessness and motor activity were generalized. She died at the end of the twenty-one days with fever of 106 F. after the pulse weakened and was concomitant with cyanosis, etc., until acute dilatation of the heart occurred.

Case 4—Mrs. L. W. Age 39 years. White. Married. One child. Was referred from a distant town concerning a toxic goiter in 1914.

Patient could not answer questions accurately and history was obtained from friends, who admitted that she had been queer for some years. That many years before she began to have a goiter develop and following this she was irritable at times. Cross with her child and husband upon least provocation. During past year she had become worse and was more sullen, and apathetic for days at a time; then would apparently be normal again. Complained of a rapid heart and shortness of breath. Could not do so much work as formerly. Lost approximately fifteen pounds during year before entering hospital.

A week before entering hospital she cooked breakfast for family and soon thereafter had a quarrel with her husband, then went into kitchen where she was found several hours later staring at the floor. She would answer no questions and would not move and resisted all attempts to move her until finally she was put into bed. The following

Tuesday she came to us in much the same condition.

At time of examination she had a very slight thyroid enlargement over the isthmus and right lobe. Vessels in her neck were pounding and pupils were equal and reacted to light and accommodation. Heart was slightly enlarged and a systolic murmur was heard at the base. There was visible heaving of the precordium. Nervous tremors were present. Eyes were slightly bulging but did not express typical exophthalmos. Pulse was 132, temperature 100 F. at this time.

She was sent to the hospital and given a forced feeding and next morning her pulse was 140 with a temperature of 102.6 F. Was now very restless and moving about but still inclined to say very little. Very stubborn. Morphine and bromides were of some help. Soon patient refused food, and toward noon the restlessness became aggravated and temperature was rising. Muttering now occurred of incoherent jargon. At 4 P. M. patient became violent and was put in a straight jacket, but even so was rubbing skin off buttocks and elbows and temperature going up rapidly until it reached 109.2 F., at which time she was put in a tub of ice-water and temperature dropped to 103 F., which was followed by a comfortable quietude until morning of the following day, when delirium and increased pulse rate again were becoming more aggravated. Pulse now was running and thready. Patient was clammy and cyanotic and violent muscular exertions of previous days were less noticeable as coma developed and following extreme prostration the heart became acutely dilated and patient died at 2 P. M. with a temperature of 107.4 F.

Autopsy revealed nothing abnormal. The thyroid showed very slight enlargement, but some hyperplasia was noted throughout the gland.

Case 5—Mrs. J. H. N. Age 46 years. Married. White.

Had two admissions to hospital. First was a rest cure for acute toxic symptoms of exophthalmic goiter. Return of symptoms brought her back to hospital in 1920, two months later. Unoperated case. Diagnosis at that time was chronic myocarditis with cardiac decomposition. Hyperthyroidism.

Patient returned September, at which time we first saw her, and she had a recurrence of her earlier symptoms in an aggravated form. She now complained of extreme weakness and shortness of breath on slightest exertion, nervousness and tremors over hands. Had lost weight and developed oedema of feet. Slight exophthalmus was present, and her thyroid was perceptibly enlarged but slightly. Pulse was 120, blood pressure 130/60 and respiration 20 per minute. No Von Graefe's signs. Heart showed some enlargement with a loud systolic murmur at base, heard loudest over the aorta area. Oedema of feet was present. Anemia moderate in type. Urine contained on last admission some albumen but no casts. Some pus cells present. Condition became worse and 9-20-20 her blood pressure was 130/56, pulse 130 and evidences of poor nutrition were asserting themselves. From now on she showed no special interest in food, and developed tremor of the tongue, fetid breath, oedema of legs, weakness, etc. Hemoglobin was 90, coagulation time 3 minutes. Red cells 4,000,000 with 14,400 leukocytes of which 50 per cent were polynuclear neutrophiles and 28 per cent were lymphocytes.

Sept. 24 patient had temperature that rose rapidly from 101 F. to 104 F. and the pulse rose also to 140.

Sept. 25 temperature rose from 105 to 108.5 F. and the pulse ran from 150 to 222 per minute and was very thready.

A spinal puncture was made, with no relief from the terrible headache of which the patient complained. For past two days she had eaten nothing and the raging fever was terrific. Her Wassermann showed a four plus reaction with a plus globulen reaction and six cells per ccm. (Previous Wassermann of blood had been negative and none was taken at this time as patient died a few hours later after coma superseded the delirium at 7:45 P. M.) She had, prior to the coma, the usual mutterings of acute delirium and its excito motor activity until coma and prostration resulted.

Case 6—Miss B. W. Age 34 years. White. Single.

Miss B. was referred, complaining of dysmenorrhoea, menorrhagia, nervousness and unaccountable weakness. In addition she had marked generalized pigmentation with a low blood pressure and pain in both iliac regions, worse at menstruation. Clots were passed with each menstrual period and, except for extreme nervousness and rapid heart with palpitation, she said her health was good. Always had been inclined to be irritable and easily angered but had learned to repress these sensations.

Physical examination showed pigmentation of face, anus, back, etc. Tremor of fingers and a systolic murmur heard over the base of the heart not transmitted. Abdomen showed an irregular mass palpable just above the mons and in right iliac region. Pelvic examination showed a fibroid uterus. Operation was done, complete hysterectomy, left oophorectomy and right ovary resected. (Cystic ovary.) Drainage. Following operation nothing unusual happened until 3 P. M., when pulse was 100, temperature 99, and patient was very comfortable, although pulse had been 120 when patient left the operating room. At 6:30 P. M. patient had some distension but nothing unusual happened until an hour later when she began to be restless and was moving all over bed and trying to repress muttering. No hemorrhage was noted from drainage tube, and as it was too early for peritonitis and symptoms were painless, we were in a quandary as to what the condition was. At 10 P. M. patient was more agitated and pulse was 130, respiration 30 and temperature 104 F. At midnight she was very restless and in acute delirium. Singing and moaning by turns. Did not recognize anyone, but eyes were bright and otherwise she seemed to look normal. Colon tube inserted and flatus expelled, lessening distension. Later an enema was given and quantity of gas expelled. Pulse now was 140 and patient weak and restless throughout the entire night. Usual saline administered under skin and supportive measures observed. Next morning at six o'clock patient was in same condition, having slept none all during the night in spite of morphine administered. Refused food since day before and now could not remain quiet long enough to take water. Intravenous glucose was impossible. Pulse was rapid. Tongue was dry and skin moist. Voided urine frequently during night, showing uterus to be intact.

At 2 A. M. of following morning, patient was very restless and no oozing from drainage tube was seen. Patient now had elevation of pulse and temperature until she finally died with a temperature of 107 F. at 4 P. M.

(This case was not counted as a thyrotoxicosis because of the probability of adrenal involvement, and no special type of goiter.)

Principles of Surgical Diathermy*

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In talking about the Principles of Surgical Diathermy, it is necessary that we understand the meaning of the term. Surgical diathermy means the destruction of tissues by the heat that is produced by the passage of electric current. It is absolutely wrong to accept the idea that surgical diathermy is an electrical phenomenon. It has, directly, nothing to do with electricity.

The point is this: It is one of the fundamental laws in physics that no energy can be lost. Energy may be transformed and split up, but it cannot be lost, and that is the principle back of the development of heat by electric currents.

If an electric current is partially or entirely stopped, the electric energy is not lost, but transformed partially or totally. That is the principle of surgical diathermy. We know that whenever an electric current travels through a body or is forced through it, a certain amount of heat will be produced. The amount of heat depends on one hand on the amount of current that is sent through; on the other hand, it depends on the resistance which this body through which the current travels offers to the progress of the electricity.

Our idea is that this electric current consists of the smallest particles of matter, the so-called electrons which build up the atoms, and which are charged with electricity and travel in a certain direction. Thus the electric current effects the transportation of the electricity from one point to another by means of the smallest particles we know of, the so-called electrons.

If those electrons meet with some resistance, some obstacle, in traveling to another point, the greater that resistance the greater will be the transformation of electric energy into caloric energy; consequently, the greater will be the amount of heat produced.

You know that heat for a good many centuries was given great preference in dealing with malignant tumors, not only because it was found that destruction by this means was easier than by the knife, on account of the avoidance of loss of blood, but because it seemed the final results in a great many cases were much better.

The carrying of heat into the tissues, from the outside, is technically very objectionable. In using a cautery or soldering iron you drive the heat only to a certain depth, and the minute you apply this instrument to a living tissue you lose heat which cannot be immediately restored. Then, it is absolutely impossible to gauge the degree of heat that you apply to the tissues; it is absolutely impossible by progressing with the cautery in the cauterization of the tissues to change the amount of heat. All these things are eliminated by producing the heat within the tissues.

If we apply a glowing iron to a surface, the heat is carried into the tissues from the surface. By diathermy we produce the heat within the tissues themselves.

As to the choice of current, you know that whether it is an uninterrupted current or an interrupted current, there are always two influences to be noticed.

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One is a certain amount of decomposition of the matter through which the current flows, so-called electrolysis. The other is excitation of certain structures of the body which are susceptible to this excitation.

If we were to use enough of such current, traveling in one direction in the body, to produce heat enough to desiccate the tissue, then we would bring to bear upon all this living tissue the electrolysis and the excitation; we would destroy tissue that we don't want to touch, and the responsive structure in the body would be excited to such an extent that a patient would suffer pain, and physiologic damage would be done.

In order to avoid that, the so-called high frequency currents are used. The principle is this: There are currents that are steady currents and there are currents that reverse their direction. If this reversion is about a thousandth of a second we call it a medium frequency current; if, however, this reversion of the current exceeds a million reversals in one second we call it a high frequency current. In this quick reversion of the current there is not time enough to develop the influence of electrolysis or excitation, and these two factors are absolutely eliminated. You can force the current through the body—provided it is a current of frequent reversals, about 1,000,000 or 2,000,000 to the second—up to 20,000 volts, and 4,000 milliamperes, without producing an impairment of the general constitution. That is the reason why we employ high frequency currents.

Surgical diathermy means the production of destructive heat within the tissues, produced by the resistance that these tissues offer to the current. Whether this destruction is carried to a certain extent or to a higher or lower degree is absolutely within our power.

Now as to the production of the heat, if you take electrodes of equal size, the amount of electrical power will be exactly the same at one electrode as at the other. Consequently, all the tissue included between these electrodes of the same size will be subject to the influence of the same amount of heat that is produced. If, however, one electrode is much larger than the other, then all these power lines will concentrate against the smaller surface, in which case we get all the electricity and all the products of the electric current concentrated in a much smaller area. It depends on the size of this smaller electrode, together with the voltage and amperage, whether you produce enough heat to destroy tissue. It depends also on the character of the electrodes. If you take electrodes that are poor conductors, you don't produce much heat because great resistance is already offered up within the electrodes. If, however, you use electrodes that are made of metal, you will produce much more heat than if you use an electrode constructed of material that is a poor conductor, because there is little resistance in the metal electrode, and all the energy of the electricity can be transformed into caloric energy.

In all surgical diathermy we use two poles, but for convenience, if both electrodes are of the same size, we call that the bipolar method. On the other hand, if one electrode is very much larger than the other, we call that the unipolar method. If we use electrodes of the same size and of a diameter small enough so that a great deal of electricity is concentrated within a small area, then all the tissue between these two electrodes of the same size will be coagulated. That illustrates the bipolar method.

In order to obtain access to certain parts of the body, the bladder, for in-

stance, we must work in such restricted space that there won't be room enough to bring two electrodes to bear upon the tissues that are to be destroyed, so we use the so-called unipolar method. One electrode of very large size is placed somewhere near on the body, while the other electrode of a much smaller size is used to destroy the area of the tumor that we want to destroy by concentrating all the electricity on this smaller electrode. We call the electrode that doesn't produce any heat the inert or inactive electrode, while the other electrode, which is much smaller and which concentrates all the electric energy and converts it quickly into a great amount of caloric energy, is called the active electrode.

It is, of course, much quicker and much easier to desiccate or coagulate a tumor if you can catch it between two active electrodes, and this method is employed every time that it is desirable to get away with a large tumor in a hurry and where it is possible to apply the two electrodes so as to catch the tumor between them. It is the quickest method, the more thorough method, and, of course, preferable if you have to deal with very large or very juicy tumors.

If there isn't enough room, as for example, in destroying cancer of the bladder or of the tonsil, we use the unipolar method. It takes much longer, of course, to destroy a tumor with one active electrode than if we were able to catch it between two electrodes of the same size.

As to choice of electrodes, it doesn't make much difference in a benign tumor whether or not you insert a needle directly into it and destroy the tumor in this way. If, however, you have to deal with a malignant tumor, the method of direct insertion of the needle will meet certain objections. For, if you insert a needle-shaped electrode into the tissue, you not only produce heat, but by the sparks that are produced you have a mechanical comminuting effect; consequently, there is a possibility of disseminating cancer cells into the adjacent tissue.

Again, if we insert the needle at the base of such a tumor and comminute the tissue and practically start an explosion at the base of the tumor, there is also a possibility of disseminating present streptococci in the adjacent tissues. There are cases on record, for instance, in malignancies of the bladder, where the insertion of a needle and the application of the high frequency current led to the development of peritonitis in a short while, because from the base of this tumor streptococci were thrown into the adjacent tissue and there caused infection.

Therefore, in all malignant tumors, wherever they may be located, it is preferable to burn the tumor down and not to insert any electrode, because we never know what damage we are going to cause if these electric explosions occur.

If we have to deal with a large tumor and find it desirable to remove the bulk of it, we can remove it with a so-called radio knife; that is nothing else than a diathermic knife of a very low voltage. You can cut off the tumor, if you want to, avoid any dissemination which may be produced by using the sharp knife, and then coagulate the base of the tumor.

As to the choice of electrodes and the amount of current, it is immaterial what kind of an electrode we are using for the large inactive electrode, whether we use a mesh or metal electrode, provided we apply it with the proper precautions.

Any such electrode must be in the most intimate contact with the surface

of the body wherever you apply it. If there is any distance between your inert electrode and the body, the current will be interrupted and you know whenever you interrupt the current a spark is produced. The electric spark is not simply a shock that comes out of the electrode and enters the body; if you look at such a spark with a magnifying glass you will see that the sparks travel back and forth all the time. You draw just as many sparks out of the body as you send in from the electrode. That means that any time a spark is produced a certain damage is done. If that is kept up for a while, especially if you use a higher voltage, you will produce a regular electric burn.

In order to avoid any of these complications, if you use the metallic electrode, cover the plate with soap, so that even if such an interruption of the current should occur, there won't be any sparks drawn out of the body.

There is one thing that occurs quite frequently. An operator wants to destroy a tumor of the bladder, let us say, or he wants to destroy a tumor of the cervix or of the uterus. Quite often the inert electrode is placed on the operating table and the patient put on it, figuring that the weight of the patient will be sufficient to keep this electrode in contact with the body. That is taking a long chance. The patient may move. The patient contracts a muscle and lifts the body up from the contact with this plate. It is absolutely dangerous to simply rely on the weight of the patient to maintain the contact. Any time you use an inert electrode, if you are going to send enough electricity through to destroy tissue you have to bandage the electrode around the body of the patient or at least fasten the electrode with adhesive straps to the body so as to be sure not to lose the intimate contact.

It seems that mesh electrodes are preferable to the combination electrodes. If you take block tin and cover it with some gauze or sponge, a part of the electrode may dry out. Then instead of a certain definite known area which carries your electricity, you have less, which may lead to concentration of the current and to a very untoward result.

It may also happen that by a detachment of the material from the metal the contact is interrupted, and then you shoot the spark from your metal plate through the gauze, which again will injure the patient.

As to the choice of active electrodes; we use the electrodes according to what we want to accomplish. The active electrode, the electrode that really coagulates, must not be too large. About the largest electrode we can use has a diameter the size of a quarter because it is impossible to produce enough current to destroy a tumor if the surface of the active electrode is too large. It would require such an enormous amount of voltage that it would not produce the results without the danger of injuring the patient.

There is one point to be considered, and that is this: If we shower sparks on the surface of a tumor, we call that desiccation.

The sparking will have a very shallow effect to begin with. In order to eliminate all the physiologic actions we reverse the current at about 1,000,000 or 2,000,000 a second. If you produce heavy sparks, especially from a distance, you not only interrupt your current but slow up your reversion. Consequently, you produce physiological effects. These physiological effects can be so intense that a person may even die of them, and that is especially to be borne in mind anywhere you operate in a cavity.

You will see, for instance, that you coagulate by intimate contact without producing any spark. Suppose you use

a local anesthesia or a general anesthesia, the patient won't react at all while you have intimate contact with the tumor. If there is a distance between your active electrode and the tumor, a spark jumps over and the patient will twitch. It may even go so far as to become a heart shock.

In order to devitalize the whole surface of a tumor before we go into the depths, there is one precaution to be taken, and that is to use a very low amperage; then you won't do much damage.

As to the amount of the current, you can't lay down exact figures for surgical diathermy, but that is absolutely unnecessary. You use as much current as you must. How do you find out about that? There are two ways of doing it. All your active metallic electrodes that you intend to use for electro-coagulation have to be tested empirically by yourself. It is very simple. You place a piece of meat on your inert electrode. Then you take your electrode that you want to test. While you are slowly increasing the amount of current you watch your amphere meter. Let's say you coagulate for twenty seconds or thirty seconds, and make a note of how much amperage you use. Then you cut through the coagulated area and measure the depth. Suppose this depth is five or six millimeters. You know that with this certain amperage this electrode will coagulate say five or six millimeters. Then you repeat the experiment, increasing the current, etc.

There are only three or four electrodes that you have to use for surgical work.

We coagulate until the tumor is absolutely dry; your surface must be entirely dry. That is very important for two reasons. Quite often if you don't coagulate thoroughly, your surface being entirely dry, you may have a post-operative hemorrhage. When the patient recovers and the heart begins to beat strongly, one of these scabs may be thrown off and there is a secondary hemorrhage. If you coagulate thoroughly until everything is dry, you are sure you will not produce any implantation. If you coagulate a tumor that is full of blood vessels, the scab will be absolutely black. If you coagulate a tumor that contains very few blood vessels, the scab will be white.

It is very erroneous to try to use the maximum amount of current at the start. In diathermic procedure you have to "sneak in" with your current. You begin with the least amount. It may take one minute before the current really gets hold of it, before the resistance is overcome so that you get a sufficient transformation into caloric energy. The first symptom that you get, knowing that you have enough current turned on to coagulate, is the sizzle and then come the steam and smoke. You don't have to turn on all your electricity right away. Don't be in a hurry. Wait for the sizzling and the steam.

The other question is when to stop. It is true enough you can test your electrodes. Still the resistances of tissues vary. Up to recent times we have tried to overcome these difficulties in the following way: If, for instance, you coagulate an epithelioma of the vagina or a cancer of the cervix or a tumor in the bladder, if the coagulation was carried too far there would be danger of too much sloughing.

Recently electricians have succeeded in manufacturing instruments which are based on the principle of the pyrometer. To measure excessive heat in a blast furnace, for instance, the ordinary thermometer would not suffice at all. For this special purpose there are some instruments devised based on the principle that if you solder two different

metals together and change the temperature you produce a certain amount of electric current which can be measured. This principle is now applied in the manufacture of this pyrometer, so with the introduction of the electrode you introduce this pyrometer and that shows you exactly the degree of heat that is created by your electrode in the adjacent tissues, so you have an exact way of measuring. You don't have to rely on guesswork. You know exactly the heat and whether there is too much or not enough. If there isn't enough heat it doesn't mean much, because you know there is no harm done and you can increase your current. If there is too much heat you may do damage, and you know it before the damage is beyond repair. Tissue that is once desiccated dies.

As to the loosening of the scab, that takes from eight to sixteen days, according to the individuality of the tissue and according to the depth of destruction. The losing of the scab is gradual. The whole scab doesn't drop off at once.

Suppose you want to sew up the bladder after you coagulate a big tumor, there is absolutely no urinary obstruction because the scab comes off piecemeal and floats out with the urine. If you coagulate near a large blood-vessel, be on the watch for a secondary hemorrhage. Such a patient must stay in the hospital until the healing process is finished. It is especially true if you operate in a large cavity that you may damage the wall of an artery and produce an enormous hemorrhage.

Surgical diathermy is tremendously valuable to the surgeon in two distinct ways. In the first place, but using surgical diathermy we are now in a position to attack malignant tumors or other tumors that are beyond the reach of the knife either on account of their location so that the removal of such a tumor by the knife would offer insurmountable difficulties, or on account of the extent of the tumor.

We don't claim (and nobody can) that we can cure malignant tumors by surgical diathermy, but we can say that in a great many cases that couldn't otherwise be operated on we furnish great relief, we produce palliative results in the patient that are splendid because the patient is kept in comfort and without pain for a much longer time. Those are things that we never could have accomplished before.

The other great value of surgical diathermy is this: surgical diathermy is the most important preliminary step for radiotherapy. Where this radiotherapy is executed by using a radioactive substance, you all know, for instance, that in cancer of the tonsil or tongue the mere application of radium or the mere application of X-rays quite often leads to a tremendous luxuration of the tumors; inside of two weeks they grow out of the mouth. That will never happen if you coagulate beforehand.

A Case of Cardiorenal Disease with Complications and the Effect of Novasurol as a Diuretic

By Albert J. Stokes, M.D.

Patient, Mr. H. J., age 27, came to me for treatment under date of January 17, 1925.

Present Condition—Swollen abdomen, leakage of heart, dyspnoea, swollen feet, diarrhea, swelling on back.

Onset and Course—At the age of 13, while a freshman in high school, patient played football some. He began to feel generally run down, weak and suffered with rheumatism in legs. Went to a doctor, who found a leak in his heart. Leak has been present since that time and patient has never been rugged since then. There have been frequent coughs of slight inconvenience. During the year 1918 patient was in bed or in wheel chair most of the time with complaints the same as those present now. These present complaints began about November 20, 1924, with jaundice and general tired feeling. Was advised by doctor to push fluid intake which he did and edema of the feet and legs began. Abdomen, too, became noticeably swollen about December 20, 1924. Dyspnoea and cough are both minor complaints and have been present some six weeks. Swelling on back has been present since injury there in auto accident some 14 months. Fairly constant in size and feeling for a year. Diarrhea has been present for ten days.

Past History—Measles in childhood.

Surgery—Negative.

Eye, Ear, Nose and Throat—Sore throat very seldom. Earaches in childhood; no discharges from ear. Colds—one a year.

Lungs—Negative until age of 13 for dyspnoea and cough. No pneumonia. Never had acute dyspnoea or cough.

Heart—No pain. No palpitation.

Gastro-intestinal—Appetite good. No vomiting. Has had diarrhea lasting three or four days two or three times in past ten years. Present diarrhea has consisted of on an average of eight bowel movements a day for ten days. This present trouble began after two doses of magnesiam citrate taken to relieve fullness in abdomen. No constipation. No hemorrhoids.

Urinary—Polyuria since about December 25, 1924. Has consisted of six to eight urinations a day. For past week there has been slight pain in bladder before urination and relieved by urination. Ne hematuria. No retention.

Nervous—Negative.

Joints—In bed for four weeks in 1914 with pains in knees and calves. No swelling.

Genital—Never married.

Family—Father died of cancer at age of seventy. Mother living and well, 70 years of age. No tuberculosis. No similar complaints. Patient is youngest of seven children.

Habits—Sleeps well. Uses tobacco moderately; alcoholic drinks moderately; no coffee or tea. Physically very active until forced to slow down.

Physical examination—Reveals patient as a well-nourished, pink-cheeked white man, apparently about 20 years of age, though really almost 26. Breathes rather short breaths and speaks in short sentences quickly spoken. Patient continually hunting for a comfortable posi-

tion in bed but seldom lying flat on back unless requested to do so.

Regional:

Sinuses—Negative to percussion except right frontal and right maxillary are tender.

Nose—Almost obstructed on right side. There are tiny serous scales at nasal and buccal muco-skin junctions.

Mouth—Upper denture. Pharynx negative. Tonsils negative except right is moderately large.

Ears—Negative.

Eyes—Negative.

Neck—Negative.

Chest—Markedly deformed. Left half looks normal except for ⅔ palm size visible apex beat between anterior axillary line and mid-axillary line at level of xyphoid.

Right side is somewhat sunken in front in upper ⅔ and markedly prominent in scapular region behind making a marked hump easily grossly visible with clothes on.

Motion comparison of two sides is of no value. There is no lack of motion on either side.

Lungs—Are resonant throughout. No rales or rubs. There is a marked frequent dry short cough.

Heart—Is in second interspace, under sternum, within nipple line at nipple, almost to mid-axillary line at right xyphoid level.

Apex beat ⅔ size of palm outside and below nipple and skin over apex beat is redder than elsewhere in region. Apex beat is solid and muscular.

Sounds—120 per minute.

Mitral murmur is loud and constant.

Tricuspid—obscured by mitral.

Pulmonary and Aortic—Labored but otherwise normal.

Rhythm—Is of absolute irregular type.

Blood Pressure—from right arm in recumbent position—A few sounds are heard at systolic 158, diastolic 70. All sounds are heard at systolic 130, diastolic 85.

Abdomen—Is full, round, tympanitic only over recti with patient on back; transmits a strong fluid wave. No tenderness, no masses or palpated organs except liver is 4 fingers below ribs and tender; abdominal wall edematous.

Genitals—Negative except for localized edema of scrotum in most dependent parts; inguinal rings closed.

Extremities — Arms negative; legs negative, except for soft edema which pits deeply on pressure below knees and slightly throughout thighs. Patient continually complains of cold feet.

Skin—Negative.

Joints—Negative.

Nervous Reflexes—Ankle, dull; knee, not obtained; biceps, triceps, wrist ext., wrist flexor, dull and equal.

Summary—

(1) Long history of present complaints, 12 or 13 years.

(2) Double mitral regurgitation.

(3) Enlargement of cardiac, dullness to the left.

(4) Edema of abdomen and legs.

(5) Enlarged liver.

(6) Jaundice at onset.

(7) Polyuria.

(8) Deformity of chest wall.

Blood Examination—

Wassermann negative.

White blood cells, 19,400.

Red blood cells, 6,140,000.

Differential Cell Count—

Polymorphonuclear Neutrophiles, 76%.

Small Lymphocytes, 19%.

Large Lymphocytes, 4%.

Basophile, 1%.

Eosinophiles, 10%.

Urinary Examination—

Color, amber.

Reaction, acid.

Sp. gravity, 1.020.

Albumen, trace.

Sugar, 38 drops reduce 5 c. c. Haines solution.

Microscopic—

Few cylindroids.

Red blood cells, few seen.

Pus cells, 10-12, H. P. F.

Examination of Feces—No occult blood or amoeba.

X-Ray Examination—Anteroposterior and lateral views showing all of chest and dorsal vertebrae show marked scoliosis to the right. The body of the vertebrae appear apparently normal except the sixth dorsal one, which shows a very marked narrowing intervertebral space and definite irregularity.

X-Ray of kidney reveals no findings.

Treatment—*Rest.* Patient was immediately put to bed for absolute rest.

Temperature, 96.

Pulse, 140.

Respiration, 28.

Diet—Fluid intake restricted to one pint 24 hours. Food limited to dry diet.

Medicinal—Digalen, minims XV, administered intravenously, 3 times a day.

It was thought advisable not to interfere with diarrhea present; 24 hour specimen showed elimination to run as low at 300 c. c.

Under date of January 19, 1925, patient was subjected to electric sweat baths, which were administered daily for the first week. Excellent results were obtained from the administration of these baths and the generalized edema gradually disappeared and patient improved to such an extent as to be able to be up and around the hospital. He was discharged to his home under date of Feb. 3, 1925.

Temperature 98.4
Pulse 88
Respiration 20

Patient was seen occasionally from the time of his discharge from the hospital, Feb. 3 until March 1. During this time the patient became careless and did not conform to the treatment and medication as outlined to him and as a result patient's condition again became very serious. He was again admitted to the hospital under date of March 1. At the time of his admission to the hospital his condition was one of generalized anasarca with extreme swelling in the arms and limbs, together with a marked swelling of the face of such an extent that the eyes were obscure. The lips were markedly cyanotic as well as the hands and feet. Air hunger was present and patient was unable to assume recumbent position.

Temperature 96
Pulse 130
Respiration 30

Vomiting and diarrhea present.

Urine analysis showed color of urine deep amber, reaction neutral, specific gravity 10.16.

Albumen—thick, heavy cloud.

Sugar—None.

Microscopic—Scattered hyaline casts; red blood cells few; pus cells, 4-6, H. P. F.

Physical findings—

(1) Double mitral.

(2) Tricuspid regurgitation, relative, with auricular fibrillations.

(3) Decomposition, some pulmonary congestion, enlarged liver, ascites and edema.

(4) Kidneys, passive engorgement.

Patient was administered Digifoline 1 c. c. intravenously every four hours, 8, 12, 4 and 8, for three days, then administered A. M. and P. M. daily. The usual dietary measures as previously stated were carried out at this time. Electric cabinet baths were resumed, but owing to the physical condition patient

was unable to take them. Following the administration of Digifoline patient's pulse slowed to 85-90, became more regular. Cyanosis began to disappear and dyspnoea became markedly decreased. Appetite improved. Patient was again tried on electric baths, in which he was able to remain 30 minutes. The administration of Digifoline was discontinued and Tincture of Digitalis was administered, 15 minims, 3 times a day, per orum. Generalized edema remained the same and did not seem to be influenced by administration of the electrical sweat baths or digital medication.

Under date of March 14 Novasural (manufactured by Winthrop Chem. Co.) ½ ampoule was given intramusculary at 8:25 A. M. As a result of the administration, the patient suffered with a severe chill, became nauseated, lips and finger nails became cyanotic and also suffered from severe headache. The chill ended at 9:50 A. M.

Urinary elimination materially increased for next 24 hours to 1100 c. c.

Under date of March 20 another ampoule of Novasural was administered. Patient again suffered with generalized reaction, coughing, cyanosis, dyspnoea and chill. Patient voided during the 24 hours 720 c. c.

Patient was again administered Novasural under date of March 24. Following the administration at this time the patient suffered from no reaction. During the next 24 hours voided 1200 c. c.

The Novasural injections were then administered every three days, increasing the urinary elimination in 24 hours to as high as from 2,000 to 5,000 c. c.

Under the administration of Novasural, the generalized edema entirely disappeared and under date of April 15 the patient was allowed to be up and about in a wheel chair. Under date of April 29 the patient was allowed to walk about the hospital and was discharged therefrom on May 1, 1925.

During the administration of Novasural, patient was given thirty grains daily of Am. Chl. It became necessary to discontinue this drug owing to the apparent diarrheal action which seemed to weaken him.

4805 Fullerton Ave.

Hospitalization of War Veterans Today

By Inez M. Pugh

Notwithstanding all that has been said and written about hospitalization of disabled American War Veterans, I wonder how many individuals in the United States today have any definite idea of the elaborate hospital program that the U. S. Veterans Bureau is carrying on.

Already operating forty-nine hospitals, 74 dispensaries, ninety-four clinical laboratories, about 100 x-ray laboratories and housing over 29,000 patients, the Bureau is constantly constructing and opening new hospitals and incorporating additional facilities in those already open. These hospitals are as modern and complete as science and careful planning can make them and no detail of utility or convenience is sacrificed to a false prompting toward economy.

In order that the medical authorities of the hospitals may be enabled to give their undivided attention to the care and treatment of patients the Director has established a business manager in each hospital to look after the financial and economic affairs of the institution.

These men have been carefully selected with regard to demonstrated ability as business executives and are expected to show gratifying results in the way of increased economy of administration, and in handling the thousand and one business details inseparable from the functioning of a large institution.

It has long been the Director's conviction that these duties should not be imposed upon the medical men charged with the actual care and treatment of the disabled and the establishment of these business managers is a definite gesture planned to increase efficiency on the part of the physicians as well as in the economic operation of the hospital.

In the matter of hospitalization of disabled veterans the President, the Director, of the Bureau and the Congress are thoroughly in accord and whatever may be necessary in material and personnel to furnish adequate hospitalization and medical service of the highest order is being and will be provided for. The generous provisions of the Reed-Johnson Bill have permitted the Bureau to open its hospitals to veterans of any war in which the United States has participated since 1897 and already over 2,000 have availed themselves of this benefit showing plainly the acute need for such assistance.

In planning the hospitals, not alone is the medical care of the men considered, but recreational and entertainment features are also provided, chief among which latter are the radios which are being installed in all Veterans' Hospitals as rapidly as suitable equipment can be obtained.

In the appropriations recently made available by Congress complementing the Third Langley Bill, six new hospitals and a National Training School for the Blind are provided for and funds are made available for the completion of another hospital now partially constructed.

In order to secure for the Bureau the greatest possible efficiency in medical service the Director has assembled a body known as the Medical Council which is composed of thirty of the leading specialists of the United States and which meets at his call to counsel and advise with him and the Medical Director in all matters pertaining to the medical care and treatment of the disabled.

The Director feels that it is much more a service to give a man back his health and with it his economic independence than it is merely to maintain him in a hospital and pay him compensation. Therefore, this feature is a significant step in demonstrating his theory that cure rather than money compensation should be the chief endeavor of the Bureau.

In this theory the Medical Council heartily concurs and in accordance with this policy a hospital's efficiency is measured by its accomplishment in recoveries of the disabled.

In this phase of the work, however, the attitude and cooperation of the patients is half the battle and if past experience is a safe criterion for the future the outlook is indeed encouraging.

The boys who had the courage and grit to carry on throughout the war are demonstrating that same spirit in their slow and irksome fight back to health and strength and in each recovery credit for the victory belongs quite as much to the patient as to the physicians and nurses.

In many of the Bureau hospitals the men find much pleasure, healthful exercise and recreation in the planting and tending of truck and flower gar-

dens. This occupation is always encouraged and provisions for various other forms of occupational therapy are constantly being developed in the hospitals.

In a great many of the hospitals, a small weekly or monthly paper is edited and published entirely by the patients and personnel and many of these papers show genuine merit in carefully prepared articles which are a faithful reflection of the fine spirit prevailing in the hospitals, as well as many amusing little local squibs which record the daily life at these great institutions.

There was an old fashioned idea that a hospital was a gloomy, disinfected place, redolent of iodoform and hung with fever charts, in which to be sick and do something about it, but this notion has given place to a gratifying knowledge that the Veterans' Bureau Hospitals at least, are "comfy," cheerful and pleasant, and that mental contentment for the patients is quite as important an objective as physical relief and betterment.

There is a certain personal quality in the service that the physicians and nurses render the disabled as though they bear constantly in mind with grateful remembrance the cause and source of the wounds and hurts they strive to heal.

It is on such a basis as this that there has been built up in the U. S. Veterans' Bureau Hospitals a morale and an esprit de corps of which both the patients and the personnel are justly proud, and upon which most surely rests the success of these institutions.

Valmora Sanatorium

By Arthur M. Corwin, M.D.

Valmora Sanatorium for Tuberculosis, at Valmora, New Mexico, was founded some fifteen years ago by Dr. Wm. F. Brown. The following poem was read at a banquet given March 21st at the University Club, Chicago, to one hundred and fifty guests—members of the medical profession and laymen who are backers of the Sanatorium. The affair was unique in the many elements of Western flavor which marked the gathering. Dr. Brown gave a lantern slide talk of high interest, showing many views of the institution and many more of his ranch at Gascon, forty miles from Valmora, high in the mountains, and many too of New Mexico's varied interests. Dr. Brown has kept in intimate touch with these things and is an enthusiastic lover of the vast out of doors, which he has brought to many Chicago friends through his summer hospitals. He is a thoughtful host and has gathered to himself a multitude of friends during these years devoted to the care and cure of tubercular patients.

BIG BROWN OF VALMORA

By Arthur M. Corwin, M.D.

Some fifteen years, I think, have made
Their records since Big Brown blew in
To town and cast his lengthy shade
Athwart my path, and with his grin
Lit up the way as if the sun
Shone out of his some inner place
Of warmth to mix these two in one,
His merry soul behind his poker face.

Though stranger he, and with no card
Of introduction but himself,
He walked right in my door unbarred
And laid his hat upon my shelf.
And such a hat! sombrero, brown
Just like his name, full broad of brim
To shield from heat, and high of crown
To house the ample dome of him.

And so he came with winning word
And winning smile, a certain charm
Of way, a wish let fall that stirred
Some sympathetic chord to arm
Co-operation with a dollar sign,
A dream made practical in plan,
A monument of high design
Reared to the help of fellowman.

He sensed the problems that involved
A sacrifice of time and gold.
He saw the mountains, and resolved
To plant his standard fair and bold
Upon the heights where sun and air
Are only free to those who can
(These remedies without compare)
But free to multitudes whose care
Is on the conscience of this man.

And so his vision grew, and wise
And philanthropic comrades gave
Whole-hearted active enterprise
And much of work and wealth to save
Unfortunates. They gave him trust
And cordial hands. Unselfish ends
And clean sincerity—these must
Win out. They multiply his friends.

And yet the years were full of rough
Rebuffs and obstacles to kill
Ambition, fit to test the stuff,
The texture of his heart and will.
And if Big Brown had quit the game
We played, his vision of Valmora
Had died within his hat, the same
As 'twere just talked through his fedora.

What if the cook had left, the nurses,
The maids? What if the laundry force
Or stable men had quit with curses?
Big Brown was all of these, of course.
To build, prescribe, to milk, to herd,
To buy provisions or to swap a mule,
To plan and serve a meal, or spurred
To round the horses up—what school
Was this in which to mold a man
What filter to eliminate a fool.
But he was born to fill that job,
As if a ship had lost its crew.
He was its captain, pilot, gob,
To see that vessel weather through.

I've slept with him upon the wind-
Swept mesa, and at dawn awake,
Have breakfasted on grub that's tinned,
While lingered near, a rattlesnake.

Where infinite and finite meet
Across a nearer sky at night,
I've camped with him beneath the light
That fell from many a star-lit street;
Together bathed in icy streams,
Which means get in and quicker out;
I've trekked by autos, horseback, teams
And dined with Bill on rainbow trout.

We've drunk in visions by the mile
Of canyoned beauty, drunk the dregs
As well of hunger, with a smile
At the mere thought of two fried eggs.
So now it flavors our delight
These praises of our friend to sing,
For eulogy is never quite
So sweet when some post mortem thing.

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THE FOOLISH DOCTOR

Time and again we have written editorials warning our medical friends against carelessness in making investments. For this reason we quote from the daily papers, at the time of writing, the following announcement:

> "Jack H. Davis & Co., a brokerage concern at 332 South La Salle Street, blew up yesterday with a loss to investors which federal agents say will total at least a quarter of a milliin dollars. . . The investors are said to number about five hundred. The largest group of investors were gasoline filling station employees, and physicians came second."

TO OUR READERS

Write your own moral—and spend half an hour in silent prayer!

OLD FASHIONED DISCIPLINE

We reprint and cordially endorse the following editorial on "Old Fashioned Discipline" published in the June 1, 1925, number of the *Journal-Lancet*, Minneapolis, Minn.:

> "'Spare the strap and spoil the child,' is a modification of the old saw. All over the country there seems to be an attempt to return to former disciplinary measures. The average child who was raised on a strap or lath, or the palm-of-the-hand mode of punishment, seems to stand better in his community than the child of the present day who is brought up on twaddle and on whom disciplinary measures are not enforced at home. A recent case in point was the disciplining of a truant, tardy, and unruly boy in the public schools by a principal, a woman of high character and a good disciplinarian. This child was reported to the parents time and again, and the teachers were told that the parents could do nothing with him. After repeated suggestions on the part of the teacher that something must be done, the mother of the boy telephoned the teacher to discipline the child herself. After having been given this authority, the teacher took the child into her room, laid him over a chair and slapped him a few times with a strap. He made no apparent objection, he made no noise, and went out of the room in evidently the same condition in which he went into it. Yet this teacher was obliged to defend herself with an attorney in the municipal court, in a suit brought by the father and mother of the boy. The testimony covered a good share of the boy's behavior and the conversation between the teacher and the mother and also the kind of discipline the child received. Judge Levi Hall, who heard the case, decided promptly in favor of the teacher, thus putting his seal upon the necessity of home care and responsibility and home discipline instead of leaving it to the teacher to carry out the disciplinary measures which were the duty of the parents. The School Board were not very enthusiastic about the defense of the teacher, that is, some of the chief members of the Board were not; but the women of the School Board stood by and commended the teacher for her work and for her stand. Had the School Board been active in the matter the whole thing could have been settled by a simple investigation on their part, but evidently someone chose to let the affair go through. Now that it has gone through, it is to be hoped that it will establish a precedent and the teachers will be given authority to discipline children when this is not possessed and used by the parents; for, if there is anything under

the sun that does an impudent and undisciplined child good, it is to give him a good sound "licking," and this applies to the thousands of children in the public schools of today in Minneapolis, as well as in other places. Those of us who were raised on discipline and mild punishment appreciate the urgency of the situation. Yet, for fear of public opinion and because political issues are coming on in June, those in authority hesitate to express an open opinion, a condition much to be deplored.

"The humiliation of the principal who administered the punishment, however, has been extreme and wholly unjustified when protection and inquiry might have saved her all this publicity. As it is, she probably stands commended by the majority of the people,—teachers and parents.

"In some of our schools the indifference of the parents and the deceitful attitude of the children is becoming almost unbearable. It is time something was done to remedy the situation, however painful it may seem. Children invent excuses, they feign illness, are tardy and absent, and absolutely indifferent and impudent to their teachers; and if the teacher dares to lay a hand upon such a pupil the parent makes much of it, as a rule, although, fortunately, there have been found many instances where the parent comes into the schoolroom and upholds the teacher in her method of discipline and her manner of administering it. The principal is usually timid about sending children away from school and sending them home because of the criticism that will come from the Board members, to say nothing of the criticism that comes from the parents.

The Parents and Teachers Association members throughout the city ought to take this matter up and discuss it and stand by the teacher when the parents fail in their duty. Take, for instance, an incident which is not uncommon—the mother who believes her children are 'angels.' She relies absolutely upon what they tell her; she thinks that they can do no wrong. Consequently, she forbids discipline by others under all circumstances. And, although her child or perhaps three or four members of the family, create a disturbance in an entire school, the teacher is not allowed to do anything. The outcome of the situation is that all of these children go to the bad; one becomes a murderer, another ravishes a girl, and a third kills himself,—why? Because they were not disciplined and were not subject to discipline by others, and they were brought up on the 'sweet darling' method of treatment, whereas a good trouncing in the barn by the father might have saved the morons from becoming criminals and public nuisances. People talk about environment but they do not choose, always, the happy time in the form of a little environment in the way of a lath; neither are parents always aware of the fact that they may have defective children to deal with, and they let them go undisciplined when they are 'babies,' bullies, or braggarts; and yet if they were brought up right they might turn out to be useful citizens. In the present generation, as in the past, in those who are deficient, whose environmental situation goes uncorrected we can look for a continued crop of undisciplined and unprincipled children who grow up to manhood and womanhood and become a disgrace to the community.

"The effort to start a Child's Guidance Clinic is to be approved, but it should be carried out through every department of education before we can expect much benefit to the child during the growing and formative period. The old German method of whipping the child about once a week just to keep him in trim still holds good, and it is to be recommended to the public as a wise measure, followed by success, in the training of the unruly child."

MAJOR GENERAL HARRY C. HALE, COMMANDING SIXTH CORPS AREA, CHICAGO, ILL.

Under the splendid leadership of Colonel Manus McCloskey of the General Staff, United States Army, over eleven hundred officers of the Regular

Army and Reserve Corps attended a meeting held at the City Club, June 2, 1925, in honor of General Harry C. Hale, Commander of the Sixth Corps Area, United States Army, who retires from active service on his sixty-fourth birthday, July 10, 1925.

General Charles G. Dawes, Vice President of the United States, delivered a splendid address regarding General Hale's fine record as a soldier, followed by Colonel McCloskey, the presiding officer, who gave the following most interesting address on the history of General Hale's services:

"General Hale graduated at the United States Military Academy at West Point in 1883. He joined the 12th Infantry as a Second Lieutenant and served with it at Fort Niagara, N. Y., until 1886, when he accompanied his regiment to Dakota.

"Stationed at Fort Bennett, South Dakota, he took part in the Sioux Indian Campaign in the winter of 1890-1891, and for his part therein received a citation from the War Department which reads as follows:

> " 'For conspicuous courage, fortitude, good judgment and tact in dealing with the hostile Sioux Indians at their ghost-dance camp near the mouth of Cherry Creek, South Dakota, which resulted in the surrender and disarmament of a large band of them.'

"Promotion to First Lieutenant followed in 1892, and assignment was made to the 20th Infantry, stationed at Fort Assinniboine, Montana.

"While serving in this regiment, Lieutenant Hale was detailed as aide-de-camp to General Wesley Merritt, then in command of the Department of the Dakotas. Lieutenant Hale served as aide with General Merritt up to the breaking out of the Spanish-American War, when promotion to major in the Volunteer Forces followed.

"Major Hale accompanied the first expedition to the Philippine Islands in 1898, and was present at the taking of the city of Manila. Shortly after this he returned to the United States, by way of France, accompanying his chief, General Merritt, who was ordered to appear before the Peace Commission then negotiating at Paris peace) between the United States and Spain.

"Upon return to the United States, Major Hale was assigned to the command of a battalion in the United States Volunteers, then organizing, and proceeded with his regiment, the 44th Infantry, to the Philippines in the winter of 1899. He served in command of his battalion during the insurrection that took place in the Philippine Islands and saw constant service in the Islands of Negros, Bohol and Luzon. While campaigning in the last-named Island he commanded at an engagement with the Insurrecto Forces at Mt. Maquiling and received a letter of commendation from the Commanding General of the Philippines on his conduct of this successful encounter.

"In 1902 Major Hale accompanied his regiment to the United States and soon after arrival there was ordered to Washington on a board convened for the purpose of revising the Small Arms Firing Regulations. As Recorder he completed this work, but before rejoining his station was appointed on the original General Staff of the Army, with station in Washington.

"At the end of his tour as a General Staff officer, he was ordered to the Naval War College for the summer course, and following the completion of this course proceeded again to the Philippine Islands, this time as Major in the Regular Army, with assignment to the 13th Infantry, stationed at Fort McKinley, near Manila.

"Shortly after his arrival in the Philippines, Major Hale was detailed in the Adjutant General's Department and assigned to the staff of General Bliss, Commanding the Department of Mindana. At the end of this tour of service in the Philippines Major Hale was stationed successively in San Francisco, Chicago and Omaha, and was promoted, while serving at the latter station, to Lieutenant-Colonelcy in the 17th Infantry. After a short tour of service with the 17th Infantry, Lieutenant-Colonel Hale was assigned to station in Washington as Principal Assistant to the Chief of the Militia Division, and served there during the years of 1912 and 1913.

In 1914, Lieutenant-Colonel Hale proceeded to the Texas Border and commanded there the 17th Infantry and later the 20th Infantry. He was promoted to full Colonelcy and assigned to the command of the 20th Infantry in April of 1915.

"While with this regiment he served at

El Paso and, during the raids of Villa, at Douglas and Nogales, Arizona.

"In the winter of 1915-1916, Colonel Hale was sent to China, where he took command of the 15th Infantry. This regiment was in China to protect Americans and American interests, and in carrying out this duty became involved in the Revolution of 1917, when Chang T'sun sprang his coup d'etat and reseated the Little Emperor on the Chinese Throne for a few days.

"While at Tientsin, Colonel Hale was promoted to the rank of Brigadier General of the Regular Army, and when divisions were organized for service in France he was promoted to a Major Generalcy and assigned to command the 84th Division, then organizing at Camp Zachary Taylor, Kentucky.

"In August, 1917, General Hale proceeded to join his division and later conducted it to France, where it was stationed in the training area near Bordeaux. This division arrived in France just too late to take part in the active work at the front and soon after the Armistice was returned to the United States. When this occurred, General Hale was relieved of command of this division and assigned to command the 28th, or Yankee Division, which had just then returned from the front. He retained command of this division until it was returned home to Camp Devens, Massachusetts, in April of 1919.

"General Hale was then ordered to the command of Camp Dix, New Jersey, where he engaged in the demobilization of a large part of the then returning army.

"In 1920, General Hale was ordered to Germany, where he served in command of the Second Brigade at Andernach-on-the-Rhine, until November of 1921, when he was promoted to a Major Generalcy in the Regular Army and returned to the United States in command of the First Division, then stationed at Camp Dix, New Jersey.

"In the summer of 1922, the First Division changed station from Camp Dix to several posts in New York City and thereabouts, and General Hale proceeded with his headquarters to Fort Hamilton, Brooklyn, N. Y.

"General Hale is now commanding the Sixth Corps Area, with headquarters at 1819 West Pershing Road, Chicago, Illinois.

"The President awarded the Distinguished Service Medal to General Hale during the summer of 1922."

General Hale then delivered a most delightful address in reply and after a vote of thanks to the presiding officer, the meeting adjourned.

FASTER MAIL SERVICE

A new flying schedule that will take Chicago's mail at the end of the business day and put it in New York the next morning in time for the earliest business man, will go into operation July 1. Banks, insurance brokers, in fact, all business men, are expected to find the new opportunity for rapid mail deliveries to New York and return of great value and officials of the Post Office Department anticipate a large volume of business. All classes of people will find it of great value in emergency cases.

Under the new night schedule mail for New York and vicinity posted at five or six o'clock in the evening (post office drop window 7:15 P. M.) gets into New York eleven hours sooner than the present day air mail schedule, and about eight hours faster than the fastest mail trains.

The rate will be ten cents an ounce or fraction thereof.

Not only Chicago, but nearby cities: in fact, the entire Mississippi Valley will benefit by this night service. It will be helpful to news distributing agencies and increase the earning capacity of motion picture films by reducing the time they are in transit. The new service is expected to greatly increase the air mail between all points now served and when the present service is supplemented by feeders from the south in the Mississippi Valley and from both north and south on the Atlantic and Pacific coasts, it will place all parts of the country within daily communication with each other.

CHICAGO ROUNDUP AND RODEO CONTEST

From The Chicago Association of Commerce Domestic and Foreign Commerce Committee

Chicago's name as a capital of every division of commerce and industry is to be written large on the records of the world. Not only is the city to be kept at the top of the list as a great business center, but it is to be advanced so high that its supremacy shall never be threatened. Every artery of trade is to be made to throb from the heart of the nation.

These, in their chief elements, are the objectives of an intensive commercial campaign launched by the Chicago Association of Commerce, through its Domestic and Foreign Commerce Committee. Plans have been made by the committee for a drive which will cover three years.

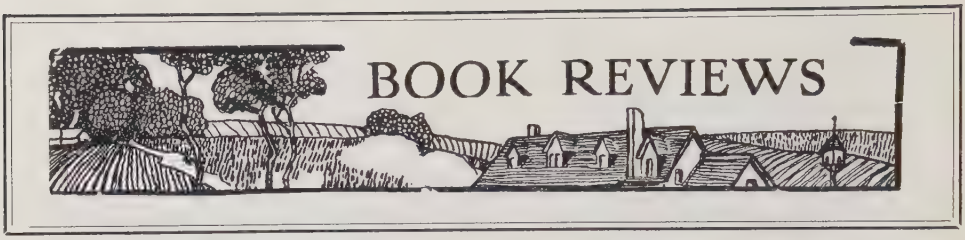
"Educate the world on Chicago!" is their slogan.

The Chicago Roundup and world's championship rodeo contest will be held in the Grant Park Stadium for nine days, beginning August 15 as the initial physical effort to stamp the city indelibly on the national mind as the greatest mercantile, industrial and recreation center.

The Roundup will be under the sole supervision of the Association of Commerce Committee and any funds derived from it will be devoted to the spreading of Chicago's commercial fame. The event has been underwritten by the city's business and professional interests so that the educational campaign may be given an impetus which will carry it to the highest record of achievement and tens of thousands of new buyers and tourists inspired to make the city their annual Mecca.

The story of the roundup and rodeo is the story of the real west, the west of Roosevelt, Masterson, Remington and Russell. The daredevil feats and defiance of death which have thrilled thousands at Cheyenne and Pendleton will be enacted in the stadium by the same buckaroos, cowgirls, "bulldoggers" and "outlaw" horses which have perpetuated the days when Greeley advised the parlor athletes of the east to hurry their trek westward. Old championship rivalries will be fought out on the hurricane decks of "bad" broncos and the necks of longhorn steers.

Cash prizes aggregating more than $30,000 have been appropriated by the Association to preserve the spirit of contest and rules of sportsmanship which have made the rodeo the one remaining typical American sport. Only those who qualify by skill and daring can share in the awards.



THE PSYCHOLOGY OF THE PRESCHOOL CHILD. By Bird T. Baldwin, Ph.D. and Lorle I. Stecher, Ph.D. D. Appleton and Company, New York and London, 1925. Pp. 305. $2.75.

Child study is receiving more and more attention at the hands of earnest students of child life, educators, psychologists, neuropsychiatrists, physicians in general and parents, especially mothers. Child study groups are being formed throughout the country. It is the nervous and mental hygiene of the child which is receiving the greatest consideration in much of the recent work in this field. And more and more are we coming to realize that the preschool period of the child's life has been largely neglected. The child up to the sixth year of life is now coming in for the observation it has long since deserved.

The authors of this book are careful students of the mental aspects of child life. Prof. Bird T. Baldwin is Research professor in educational psychology and director of the Iowa Child Welfare Research Station in the State University of Iowa, while Prof. Stecher was formerly research assistant professor in the latter institution. They stress the fact that early training is of the utmost significance for the development of personality traits such as persistence, honesty, cooperation, backbone or morale, and the rest.

In this splendid book an account is given of the work in the Preschool Laboratories under the supervision of the authors, who have scientifically observed and systematically trained preschool children in their physical, mental and social growth. A full description of the experiments, observations, results and conclusions is given. Furthermore, one finds here an historical summary of the growth of the idea of the training of children before school age from the very first to the last contributions.

The authors justly conclude that proper training in the early years from two to six produce lasting effects on the lives of the children who are thus early started in the right direction toward more harmonious and complete development of their personalities.

And so we find discussion of the physical and mental growth, especially the latter in its different aspects. Of peculiar interest are the appendices, where are given lists of children's stories and books, children's songs, phonograph records for children, etc.

This work is recommended as a sane and safe presentation of the problem of the preschool child. One who has not previously been in touch with the problems of the run-about child will have his eyes opened for him.

MEYER SOLOMON.

PATHOLOGY AND BACTERIOLOGY OF THE EYE. By E. Treacher Collins, F.R.C.S., Consulting Surgeon to the Royal London Ophthalmic Hospital and consulting Ophthalmic Surgeon to the Charing Cross Hospital, etc., and M. Stephen Mayou, F.R.C.S.,

Surgeon to the Central London Ophthalmic Hospital, etc. Second edition with 4 colored plates and 306 figures in the text. P. Blakiston's Sons & Co., 1012 Walnut St., Philadelphia.

The first edition of this splendid book appeared a year or two before the war, but on account of the unsettled conditions during and since the war the distinguished authors were delayed in issuing the second edition. On account of the length of time since its first appearance the second issue has been thoroughly and completely revised and much new material has been added. Both the authors have contributed various new chapters and the chapters on disturbances in the circulation and constitution of the nutrient fluids of the eye, and inflammation of the eye have been altered extensively.

The book stands now as it did before, one of the very best works ever published on pathology and bacteriology of the eye. It is an admirable work, indeed, a master work, and no ophthalmologist can afford to be without a copy of this excellent work in his library. We congratulate the authors for having issued a book which will stand in the very front line of books published on this subject. Moreover, it gives the actual experience and knowledge of these distinguished men. We may add that the book is gotten up splendidly and is well illustrated with over three hundred figures besides several most valuable colored plates.

Diet in Health and Disease. By Julius Friedenwald, M.D., Professor of Gastro-Enterology in the University of Maryland School of Medicine, Baltimore; and John Ruhrah, M.D., Professor of Diseases of Children in the University of Maryland, Baltimore. Sixth edition. Philadelphia and London: W. B. Saunders Company. 1925. Cloth, $8.00 net.

This is the sixth edition of Friedenwald and Ruhrah's book on diet and the best and most practical book on diet with which we are acquainted. It has been the reviewer's good fortune for many years to advocate a better knowledge of dietetics among physicians. This was long before the appearance, even of the first edition of this book, and when we compare the progress made between the time of the first edition of this volume in 1905 until the present edition in 1925 we are most gratified.

This book meets all and every need of the general practitioner, the hospital interns, medical students and dietitians, and it is one of the best reference hand books for training schools as well as for the physician.

The authors also speak of the immense strides which have been made in our knowledge of nutrition, both in health and disease. Chemical and biological methods have been applied to the subject, and the results have been nothing short of marvelous. This book is thoroughly practical throughout, exceedingly well gotten up, in a clear style, and it is so full of valuable information from cover to cover that we hope every progressive physician has a copy already in his library.

We find a great many additions in the thorough revision of this edition. Some parts have been entirely rewritten and others practically so, as for instance anaphylaxis, food poisoning, infant feeding, diseases of the stomach and intestines, nephritis, diabetes, high blood pressure, vitamines, etc. The book is so comprehensive that it is difficult to mention all it contains, but we may mention the three classifications of foods, the various factors bearing on diet, diet in all the various diseases,

special diets, such as salt free diets, milk cure, etc., diet after operations, dietaries in public institutions, even including such interesting items as diet for chorister boys in St. Paul's School, Baltimore, the government hospital for the insane, Great Ormand Street Hospital for Children in London, numerous recipes, diet lists, also a very valuable table on the chemical composition of American food materials, food values, etc. We most cordially endorse this most valuable book.

Genito-urinary Diseases and Syphilis. By Henry H. Morton, M.D., F.A.C.S., Professor of Genito-urinary diseases and syphilis in the Long Island College Hospital and Genito-urinary surgeon to the Long Island College Hospital and Polhemus Memorial Clinic; formerly member of the committee on venereal diseases in the office of the Surgeon General. Fifth edition, revised and enlarged. Physicians and Surgeons Book Co., 353 W. 59th St., New York.

This is the fifth edition, revised and enlarged, of Morton's most excellent work on genito-urinary diseases and syphilis. Since its first appearance in 1902 it has been a standard text book in the majority of colleges and has been an invaluable guide to specialists in this line.

The book has been thoroughly revised since its last appearance six years ago and has been brought up to date in every particular. As the author states, he has been greatly assisted in this revision by his friends and colleagues on the staff of the Long Island College Hospital. Dr. Archibald Murray, Professor of Pathology; Carl H. Laws, Professor of Pediatrics; Alfred L. L. Bell, Professor of Radiography; Alfred Potter, Professor of Dermatology; Lewis C. Johnson, Assistant Professor of Medicine, and Albert N. Judd, gynecologist and obstetrician to the Kings County Hospital, have all contributed their special knowledge to this book so that it represents today the most modern thought and research in every department of their specialties.

It is a most practical book throughout with over three hundred illustrations and thirty-eight full page color plates. The mechanical makeup is perfect, and every subject is covered so completely in the seven hundred pages that we are at a loss to know what to mention. Every subject is thoroughly gone into in the most practical and exhaustive manner, and nothing has been omitted of any value whatever that we have been able to see.

An appendix contains a valuable list of instruments, printed slips of instructions for venereal patients and laboratory methods for use of urologists. Examination and history charts add also greatly to the value of the book for beginners in this line of work. We have not the slightest doubt that there will be a tremendous demand for this edition and that it will receive the well-deserved recognition this splendid book merits.

Recovery Record for Use in Tuberculosis. By Gerald B. Webb, M.D., consulting physician, Cragmor, Glockner and Sunnyrest Sanatoria; late Lieut. Col. M.C., U.S.A., Senior consultant in tuberculosis, A.E.F., former president, National Tuberculosis Association; President Colorado School of Tuberculosis, Colorado Springs, Col., and Charles T. Ryder, M.D., Cragmor and Glockner Sanatoria. Second edition revised. Price $2.00.

We reiterate the favorable opinion we expressed when the first edition of this

very practical book appeared. We may say that there is nothing better to give to the intelligent patient, suffering from tuberculosis, than a copy of this book, to keep his own record as to temperature, pulse, weight, including a special blank of causes for a change.

In addition, before the chart sheets, appear eighty pages of the most common sense instructions we have ever read for tubercular patients, first, on the regular recovery, second, the technique of recovery, accidents and obstacles.

No physician can give better advice to his patient than to urge him to buy this book.

The Medical Clinics of North America (issued serially, one number every other month). Volume VIII, Number V, March, 1925. (Boston Number.) Per Clinic year (July, 1924 to May, 1925.) Paper $12; cloth $16 net. Philadelphia and London: W. B. Saunders Company.

As can readily be anticipated, this volume is replete with interest from cover to cover.

Among the contributors we may mention: Professors Francis W. Peabody, George R. Minot, Reginald Fitch, Channing Frothingham, Henry A. Christian, Hilding Berglund, all of Harvard Medical School; N. A. Jackson, Jr., of the Boston City Hospital; Thomas E. Bucknam, also of the Boston City Hospital; Gerald Blake, Massachusetts General Hospital Lewis W. Hill of the Children's Hospital; Frederick T. Lord of the Massachusetts General Hospital; Wm. P. Murphy of the Peter Bent Brigham Hospital, and others.

Among the interesting clinics we note: Primary pulmonary actinomycosis, diabetis and coma, splenomegaly in infants and children, angina pectoris and many other interesting clinics.

It would be superfluous for us, at this late date, to advise every progressive physician to subscribe for the "Medical Clinics," as well as for every surgeon to subscribe for the "Surgical Clinics." There is nothing more practical published than these "Clinics."

The Surgical Clinics of North America. (Issued serially, every other month.) Volume V, Number I (New York Number—February 1925). Per clinic year (February, 1925, to December, 1925.) Paper, $12; cloth, $16 net. Philadelphia and London: W. B. Saunders Company.

This is the New York number, and as may be expected, holds up the reputation of New York surgeons for skill and ability. Among the able contributors we may mention Professor Charles A. Ellsberg, who reports another case of tumor of the spinal cord, laminectomy and removal, with very satisfactory recovery, also clinics by Professor H. Dawson Furniss of the New York Post Graduate Hospital, Professor Charles L. Gibson, Cornell University Medical College; Professor John J. Moorhead of the New York Post Graduate Medical School; William B. Coley, Professor of clinical cancer research, Cornell University Medical College, also Drs. Edwin Bear, Fred Bankroft, Nathan W. Green, Howard Lilienthal, Oswald Swinney Lowsley, and others.

Among the numerous clinics we may mention exophthalmic goiter, gastric and duodenal ulcer, stone in the bladder, Beer's suprapubic drainage cup, sarcoma of the long bones, cholecystectomy, etc.

This is a very valuable number, full of interest and instructive.

Surgery of the Upper Abdomen. By John B. Deaver, M.D., Sc.D., LL.D.,

F.A.C.S., Barton professor of surgery in the University of Pennsylvania, Surgeon-in-chief to the Lankenau Hospital and Surgeon to the University Hospital and Astley Paston Cooper Ashhurst, A.B., M.D., F.A.C.S., Associate in Surgery in the University of Pennsylvania, Surgeon to the Episcopal Hospital, Philadelphia, Colonel, Medical Reserve Corps, U. S. Army. Second edition with nine colored plates and 198 other illustrations. P. Blakiston's Son & Co., Philadelphia. Price $5.00.

We are glad to announce the second edition of Deaver's and Ashhurst's splendid work on "Surgery of the Upper Abdomen." This edition has been thoroughly revised and brought up to date and includes all the recent improvements, operative technique, etc., which has distinguished the progress of abdominal surgery in the last ten years. Therefore, many sections of the book have been entirely rewritten, such as gastric ulcer, infantile stenosis of the pylorus, jejunal and gastrojejunal ulcer, etc., and much new material has been added, particularly in operative technique, cholecystectomy, and operations on the bile ducts, surgery of the spleen, etc.

Considering the authors, it is hardly necessary to enumerate the many virtues of this super-excellent work, which no doubt will have an immediate and very large circulation throughout the surgical world. No progressive surgeon, certainly, can afford to be without a copy of this work in his library.

THE INTERNATIONAL MEDICAL ANNUAL, 1925. Wm. Wood & Co., Publishers.

Year after year we have urged our readers to subscribe for the International Annual, one of the most indispensable books in the physician's library. The Medical Annual of 1925, giving a review of the preceding year's work in the treatment of disease, is of the same high standard as all its predecessors. Among the original contributions in this issue we only need mention Prof. A. W. Adson of the Mayo Clinic on Surgery of the Nervous System; Prof. E. Wyllys Andrews in conjunction with Prof. Edward Andrews, on Abdominal Surgery; the Honorable Charles Corfield, M.R.C.S., barrister-at-law, Middle Temple, London, on medico-legal points of interest; Prof. William E. Fothergill, Gynecologist of the Manchester Royal Infirmary, etc., on Gynecology and Obstetrics; the Honorable Herbert French, F.R.C.P., Physician to His Majesty's Household, on General Medicine; Prof. E. W. H. Groves, F.R.C.S., of the University of Bristol, on Orthopedic Surgery; Prof. J. Ramsay Hunt of Columbia University, on Mental Diseases; Prof. E. G. Graham Little, F.R.C.P., of the Royal Society of Medicine, on Skin Diseases; Prof. Sir Leonard Rogers, F.R.C.S., on Tropical Diseases; Sir W. Ireland de Courcy Wheeler, M.D., F.R.C.S.I., past president of the Royal College of Surgeons in Ireland, on General Surgery, and many other contributions by a similar body of distinguished writers. The book gives a complete resume of all that has been written during the past year of any value, and gives the reader a general and reliable understanding of the progress of the day. We cordially recommend it to those of our readers who are unfortunate enough not to possess this work.

TUMORS OF THE SPINAL CORD. THE SYMPTOMS OF IRRITATION AND COMPRESSION OF THE SPINAL CORD AND NERVE ROOTS. PATHOLOGY, SYMPTOLOGY, DIAGNOSIS AND TREATMENT. By Charles A. Elsberg, M.D., Professor of Neurological Surgery, Columbia University; Consultant in Neurological Surgery, Presbyterian

Hospital; Attending Surgeon, Mount Sinai Hospital, and Neurological Institute, New York City. Paul B. Hoeber, Inc., New York. Price $10.

Those who are fortunate enough to possess Elsberg's original work on "Diagnosis and Treatment of Surgical Diseases of the Spinal Cord and its Membranes," a most invaluable book, will be delighted to hear of Elsberg's new book just published on "Tumors of the Spinal Cord. The Symptoms of Irritation and Compression of the Spinal Cord and Nerve Roots, Pathology, Symptomatology, Diagnosis and Treatment." It is a master work and will now occupy a foremost place on this subject, with Frazier's well-known book. A good many of us have been surprised that no new edition of Frazier's book has appeared, which like Elsberg's super-excellent work, cannot be too highly commended.

The author has written many interesting monographs on this subject of tumors of the spinal cord and has reported many cases, all of which are now collected in the present volume. In addition to a review of the whole medical literature on this subject we may state that this volume is based upon one hundred tumors of the spinal cord that Dr. Elsberg has studied personally and also has operated on. Eighty-one of these cases are reported in detail in this book.

As the author well states, his chief object has been in this book to lay special stress upon the general medical and neurological aspects of spinal cord tumor indications for treatment and every detail of the surgical technique. It can be readily seen, then, that with such a large experience, and so competent an author, this book may be called a master work.

In addition to all the case reports of the various types of tumors, extramedullary, extradural, intramedullary, etc., we have chapters on the location of spinal tumors and their relationship to the cord, the cerebral spinal fluid, symptomatology and pathological anatomy, diagnosis, and differential diagnosis, treatment and results. This book is of the greatest value to the neurologists and also to the general physician who sees these cases first as well as the orthopedic, genito-urinary specialists and teachers, and we hope it will have a very large circulation so that these cases of tumor of spinal cords will be readily recognized.

The mechanical make-up of the book is more than excellent. The illustrations are all original and superb and number over three hundred and fifty. In short, it is a model book which will be more than welcomed by the profession at large.

The Dentist's Own Book. A faithful account of the experiences gained during forty-six years of dental practice including a complete bookkeeping and recording system and a description of the management of a dental practice by C. Edmund Kells, D. D. S., New Orleans, La. C. V. Mosby Co., St. Louis. Price $7.50.

One cannot say too much in praise of this book. While it is primarily intended for dentists, it is just as applicable for physicians and surgeons and is incontrovertibly the best we have seen on the subject. Every one of the five hundred pages of this book has something of absolute value for either physician or dentist in their practice, and we are quite ready to state that any young man purchasing this book to teach him how to practice and how not to practice will be very ready to acknowledge that to him it has been worth its weight in gold.

It tells every practitioner in medicine and dentistry about every item pertaining to a man's success and cov-

ers bookkeeping, card system, records, assistants, business management, filing system, stationery, appointments, insurance, investments, efficiency, office location, fees, cleanliness, and a wealth of other useful information. It is almost impossible to do justice to this book, and all we can do is to urge each and every one of our readers who is anxious to do better in his practice and accumulate more money, and above all give more satisfaction to his patients, to get a copy of this book.

ABT'S PEDIATRICS. By 150 specialists. Edited by Isaac A. Abt, M.D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. Set complete in eight octavo volumes. Now ready Volume VI. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, $10 per volume. Sold by subscription.

The sixth volume of Abt's Pediatrics has just appeared, and, like all the volumes preceding, it is of super-excellence. Among the contributors we may mention Professors Dean Lewis of the University of Illinois, L. T. Royster of the University of Virginia, John Ruhrah of the University of Maryland, F. Bradley Talbot of the Harvard Medical School, George H. Weaver of Rush Medical College, Alfred Friedlander of the University of Cincinnati, J. V. Cooke of the Washington University of Medicine, St. Louis, and a number of other prominent men.

The subjects treated in this book are mostly infectious diseases like typhoid, paratyphoid and typhus fevers, whooping cough, smallpox, Asiatic cholera, influenza, scarlet fever, measles, erysipelas, as well as some chapters on local and spinal anesthesia in children, medico-legal aspects of anesthesia, etc.

It is impossible to say all one should say in praise of Abt's Pediatrics. No physician who treats children has any business to do so without having a copy of Abt's Pediatrics for constant consultation and information. It is a marvelous system. It makes a decided progress in pediatrics and will be one of our landmarks for years to come.

FOUR RECOVERED LEPERS DISCHARGED FROM NATIONAL LEPROSARIUM

Four lepers who went to U. S. Marine Hospital No. 66, Carville, Louisiana, the National Home for Lepers, a few years ago, have been discharged, according to a statement made by Surgeon General Hugh S. Cumming of the United States Public Health Service. They are no longer a menace to the public health, the disease having been cured, or, according to official parlance, "arrested." The conditions under which lepers are released from this institution are exceedingly rigid. They require special observation for a period of one year, including monthly bacteriological examinations to show that the leprosy bacillus is absent from the tissues. Certification of cure is also required from a board of three medical officers stationed at the hospital and experienced in leprosy.

The treatment at Carville includes the use of chaulmoogra oil, special preparations of mercury used intravenously, X-ray therapy, surgery of superficial areas of involvement, hydro-therapy, and the violet ray. The results of treatment have been sufficiently encouraging at this institution to induce numerous other patients, of whom there are believed to be several hundred in the United States, to agree to their transfer. A special car fitted up for the purpose and carrying a doctor and a nurse was used in the transfer last week of eleven patients from Florida, and seven were brought from California. There are at present 236 leper patients at Carville.

When You Prescribe

Gray's Glycerine Tonic Comp.

(*Formula Dr. John P. Gray*)

and your prescription is filled by some cheap, worthless substitute which some druggists buy in bulk, your efforts are defeated and your patient's condition is jeopardized. You owe it to yourself as well as to your patients to make sure that they get

The Original "Gray's"

which has 35 years of faithful service to the medical profession as its guarantee of

1. *Highest Quality of Its Ingredients*
2. *Painstaking Care and Skill in Its Compounding*
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4. *Maximum Therapeutic Efficiency*

There is only one Gray's Glycerine Tonic Comp. Insure your results and safeguard your patients by writing your prescription as follows—

℞ Grays Glycerine Tonic Comp. (P.F. Co.)

The Purdue Frederick Co., 135 Christopher St., New York City

What's Your Recreation?

Do you ever do any boating? If you do, you'd find a lot of interesting things in

Power Boating

"America's Livest Boating Magazine"

It tells you about the new designs in boats, engines and equipment, prints the news of races and regattas, furnishes practical advice on the operating and care of boats, gives handy kinks and ideas for the boating enthusiast.

Would you like to see a sample copy? We'll be glad to send one on request, without charge or obligation. Address:

Power Boating

Cleveland, Ohio

THE PEOPLES HOSPITAL AND TRAINING SCHOOL FOR NURSES

The Ideal Wage Earners Hospital of Chicago

22nd Street at Archer Ave. **CHICAGO**

Prepared to care for emergency Cases day or night. A full Corps of experienced Physicians and Nurses always in attendance. Affiliated with the Northwestern Medical School. We solicit the co-operation of all Physicians.

Ward Rates $15.00 Per Week, Private Room Rates $30.00 to $45.00 per week.

Phones Victory 2040 and 2041.

I. C. Gary, Pres. Minnie Schrei, Supt. Tillie Schaer, Associate Supt.

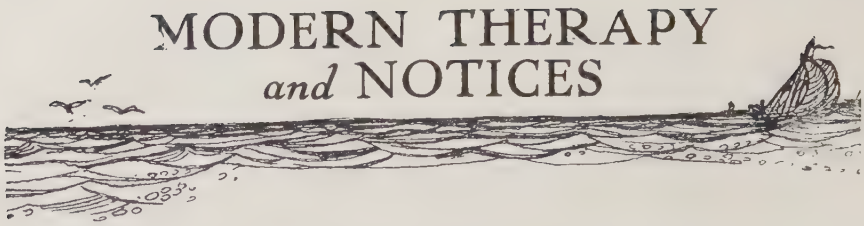
SAL HEPATICA

LAXATIVE and ELIMINANT

Efficacious in all conditions where intestinal sluggishness arising from functional derangement of the liver and portal circulation is a factor. Sal Hepatica cleans the entire alimentary canal.

Samples for Clinical Purposes

Bristol-Myers Co.
New York



D. & C. Navigation Company Extends Service

Mackinac Island, in the Straits of Mackinac, popularly known as "the Summer Wonderland," will be made easily accessible for the residents of Ohio and adjoining states by the opening of the new tourist route between Detroit and Chicago by the Detroit & Cleveland Navigation Company.

The steamers Eastern States and Western States, which operated last season between Detroit and Cleveland, will be placed on the new route sailing from Detroit every Tuesday, Thursday and Saturday at 1:30 p. m., from the Third avenue wharf. The steamers have been remodeled and redecorated throughout and the main deck of each boat aft of the social hall has been cleared to make room for a large ball room, which has been elaborately furnished and decorated. Radio and moving pictures will add enjoyment to the trip.

The steamers will pass through the most picturesque sections of the lower Great Lakes during the daylight hours, including the St. Clair Flats, St. Clair river and the Straits of Mackinac. The steamer leaving Detroit Tuesday, for illustration, will arrive at Mackinac Island at 8:15 Wednesday morning and leave at 11:30 a. m., arriving in Chicago Thursday morning at 8 a. m. Boats sail from Chicago Monday, Thursday and Saturday at 12:30 p. m. Liberal stop-over privileges are allowed at Mackinac Island, St. Ignace and Chicago.

Two new passenger steamers, Greater Detroit and Greater Buffalo, which cost $7,000,000 to build, have just been placed on the route between Detroit and Buffalo by the Detroit & Cleveland Navigation Company. The new ships are the largest side-wheel steamers in the world and can carry 1,500 first class passengers in comfort. Each boat has more first class rooms than the Leviathan has first and second class rooms, and each carries a crew of 300 officers and men. They are really floating hotels and the decorations are strikingly beautiful.

The steamers City of Detroit III and City of Cleveland III, which formerly sailed the route between Detroit and Buffalo are now being operated between Detroit and Cleveland. Summer tourists who desire a delightful outing on Lake Erie can board one of these large steamers at Cleveland in the evening and arrive in Detroit early the next morning, spend the day inspecting the great automobile plants, Belle Isle and other points of interest, and then board one of the giant new steamers at 5:30 in the afternoon for the delightful trip down Lake Erie to Buffalo, and after a day at Niagara Falls return to Cleveland in the evening on the C. & B. steamers. Tourists can stop over at any point as long as they wish.

ENDOCRINE REMEDIES

BY A RELIABLE HOUSE

ORGAN-O-TONES No. 19 (Thyro-Pituitary Co.)

Thyroid substance	1/2 gr.	Apocynum (P. E.)	1/4 gr.
Pituitary (whole)	1/4 gr.	Organotones No. 12 q. s.	7 grs.
Phytolaccin	1/2 gr.		

Prescribe: Rx—One to two capsules three or four times daily.
Indications: Obesity.
Remarks: The thyroid and pituitary both have to do with metabolism. Hypofunction of either results in decreased and sluggish metabolism. By combining these glands with phytolaccin, apocynum and Organotones No. 12, very satisfactory results have been obtained.

ORGAN-O-TONES No. 4 (Ovarian Co.)

Ovarian substance	3 grs.	Thyroid substance	1/10 gr.
Pituitary (total)	1/8 gr.	Organotones No. 12	2 grs.

Prescribe: Rx—Organ-o-tones No. 4—Ovarian Co. One capsule four times daily, after meals and at bed time.
Indications: Amenorrhea; Dysmenorrhea; sexual apathy; sterility; irregularities at puberty and the menopause; malnutrition accompanying under physical development of young girls.
Remarks: One of the most effectivee of the endocrine remedies. Due to the fact that dysovarianism is more often of thyroid or pituitary origin than ovarian, this formula has proved beneficial in cases where ovarian substance alone had been tried without results.

Write us for Endocrine booklet.

COLE CHEMICAL COMPANY, Dep't R

3727 Laclede Avenue **St. Louis, Missouri**

TESTOGAN — THELYGAN

For Men — **For Women**

Formula of Dr. Iwan Bloch

After eight years' clinical experience these products stand as proven specifics

INDICATED IN SEXUAL IMPOTENCE AND INSUFFICIENCY OF THE SEXUAL HORMONES

They contain SEXUAL HORMONES, i. e., the hormones of the reproductive glands and of the glands of internal secretion.

Special Indications for Testogan:
Sexual infantilism and eunuchoidism in the male. Impotence and sexual weakness. Climacterium virile. Neurasthenia, hypochondria.

Special Indications for Thelygan:
Infantile sterility. Underdeveloped mammae, etc. Frigidity. Sexual disturbances in obesity and other metabolic disorders. Climacteric symptoms, amenorrhea, neurasthenia, hypochondria, dysmenorrhea.

Furnished in TABLETS for internal use, and in AMPOULES for intragluteal injection.

Prices: Tablets, 40 in a box, $1.75 — **100 in a box, 3.50**
Testogan Ampoules, 12 in a box, $2.50
Thelygan Ampoules, boxes of 12, 2.50

EXTENSIVE LITERATURE ON REQUEST

CAVENDISH CHEMICAL CORPORATION

88 Park Place — *Sole Agents Established 1905* — **New York**

TETANUS NOT HOPELESS

While prevention is, beyond all question, better than cure, and has long been considered the only hope in cases of tetanus, a change is coming over the medical mind in respect to the value of antitoxin after the symptoms of tetanus have made their appearance. No longer regarded as useless, the urge is to make the dose adequate, 10,000 to 20,000 units, at least, and in the vein or the spinal cord. Some striking cures have been reported from these large doses, followed up by smaller daily hypodermic injections to maintain the antitoxic effect.

Tetanus Antitoxin, P. D. & Co., is recognized everywhere as a standard product, and is available in doses ranging from 1500 units (for prophylaxis) to 10,000.

Literature on Tetanus Antitoxin and on Chloretone (chlorbutanol), a chemical compound that is given in large doses per rectum to control the muscular spasms of tetanus while the Antitoxin is given for its specific effect, is offered by Parke, Davis & Co., whose advertisement appears elsewhere in this issue.

AN INTERESTING REPRINT

We have just read the British Empire number of the June issue of "The Bloodless Phlebotomist," in which appears an article and a facsimile reprint of Dr. Samuel Johnson's Prayer.

This is the first time that this prayer has ever been published and its original is now on exhibition among the literary treasures of the late J. Pierpont Morgan in the New York Public Library. This precious relic in Dr. Johnson's own handwriting bears the date of January 1, 1794, the first day of his last year on earth.

To those physicians who have not received the June number of "The Bloodless Phlebotomist" we suggest that they write to THE DENVER CHEMICAL MFG. CO. for it, requesting that they send free of cost a full size copy of the original manuscript of Dr. Johnson's Prayer with the portrait of Dr. Johnson suitable for framing, without any advertising imprint.

GLYODINE-BLEIL

For years chemists and iodine workers have told us a Soluble Iodine could not be produced that would be permanent and potent, in greater than 10%.

We have Glyodine-Bleil prepared in 3%, 5%, and 15%, without any change whatsoever in its Solubility or its Permanency.

Glyodine-Bleil is the only "Potash-Free" Iodine available for your prescriptions. It is the only Iodine that is Water Soluble in any percent; that will readily penetrate the skin and deeper tissues without changing their identity in some way.

Glyodine-Bleil reduces oedemetous conditions, killing the germs which produce the trouble.

Glyodine-Bleil is indicated in all the infections, and in applying over an abscess a compress of cotton must be placed over the application of Glyodine-Bleil, strapped closely to the skin so that the air is excluded and the medicament will readily penetrate the skin, and the Hygroscopic action of the Glycerine in which it is held will reduce any inflammation, relieve pain, and restore conditions to normal.

BLOOD ACIDITY

As every physician knows, the blood is normally alkaline in reaction;—when, however, because of dietary errors or insufficiencies, the circulating fluid becomes more or less acid, its oxidizing and depurative potency is lessened and

PLUTO

—where your patients can rest and recuperate under conditions most favorable. Proper food, appetizingly served; a healthful, restful environment with unsurpassed facilities for golf, tennis, hiking and horseback riding. A competent medical staff is available to co-operate with the patient's own physician. The famous French Lick Springs waters and baths are of positive efficacy in cases where their use is indicated.

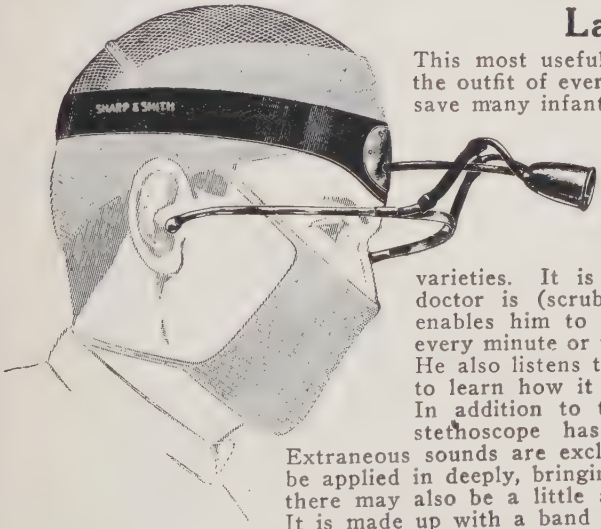
"THE HOME OF PLUTO WATER"

Pluto sample and literature to the Medical Profession on request

FRENCH LICK SPRINGS HOTEL COMPANY, French Lick, Indiana

The De Lee-Hillis Head Stethoscope

Latest Model



This most useful instrument should be part of the outfit of every obstetric practitioner. It will save many infants' and mothers' lives.

It was designed especially for use during the second stage of labor of both (spontaneous and operative), but it is even more useful for all the purposes of a stethoscope than the usual varieties. It is worn on the head after the doctor is (scrubbed up) for the delivery and enables him to listen to the fetal heart tones every minute or two without infecting his hands. He also listens to the mother's heart frequently to learn how it is bearing the strain of labor. In addition to this great advantage the head stethoscope has valuable acoustic properties. Extraneous sounds are excluded; by pressure the bell can be applied in deeply, bringing it closer to the fetal heart—there may also be a little audition from bone conduction. It is made up with a band over the top of the head, with a circular fibre head band and, for easy portability, with a ribbon woven strap.

Price, $7.50 Each

SHARP & SMITH

General Surgical Supplies

Est. 1844 **65 E. Lake St., Between Wabash Ave. and Michigan Blvd., Chicago, Ill.** Inc. 1904

toxic manifestations supervene, which not uncommonly become decidedly serious and need active treatment.

This condition is due to the loss of alkalinity of the blood which is necessary to the excretion of the effete products of food cleavage, which are then absorbed by the system generally, thus poisoning both blood and tissues.

This condition is now generally known as Acidosis.

Its treatment includes the prompt administration of alkalies in full dosage, the use of a diet rich in inorganic mineral salts, plus iron and manganese.

These two latter substances are important elements of a normal diet, and when deficient are best supplied in the form of Gude's Pepto-Mangan, in which they exist in organic combination with digested protein, in shape for quick absorption by the blood.

Oxygenation, oxidation and alkalinization are thus promoted, the blood cells are built up to their normal standard, digestion is improved, appetite increases and general improvement is quickly noted.

Samples, literature, etc., obtainable from M. J. Breitenbach Co., New York, N. Y.

MALARIA

"Although one hears less of malaria than of some other widespread and destructive diseases, it is a question whether on the whole malaria does not do more injury to health than any other disease. In the first place, there is no disease more widely disseminated than malaria and no disease, given favoring conditions, which will spread more rapidly."

In treating malarial conditions the cathartic, diuretic and prophylactic properties of Tongaline will greatly stimulate the action of the Quinine and will invariably secure more prompt and satisfactory results than the use of Quinine alone.

Furthermore, after the acute forms of malarial fever are checked by Quinine, a slow form of fever sometimes persists, not amenable to this drug, and in such cases Tongaline and Quinine Tablets are particularly indicated.

CHRONIC CATARRHAL INFLAMMATION AFTER SPECIFIC URETHRITIS

After success has crowned the efforts of the physician, in so far as the microscopic examinations reveal the fact that gonococci are no longer in evidence, there frequently remains a catarrhal discharge which proves a source of considerable annoyance and anxiety to the patient. This chronic urethral catarrh may continue for months without the slightest evidence of the primary etiological factor, and is believed to be due to structural changes as ulceration and granulation, and a congestive tendency of the mucous membranes. To correct this condition a tonic treatment, much as in other catarrhal inflammations, is called for. Iron quinine and the hypophosphites are useful; and, on account of its general properties to allay local inflammation and relieve congestion, no remedy will yield better results than Sanmetto. In such cases, the most satisfactory effects are obtained when Sanmetto is given independent of other indicated remedies and the usual dose is two teaspoonfuls, in water, three times a day.

Should the discharge be intermittent and due to chronic posterior urethritis, equally good results will follow the use of Sanmetto since its soothing influence is exercised throughout the urinary passages.

RESTORES NATURAL BOWEL ACTION

AMONG the many remedies for constipation, bowel torpor, intestinal stasis or any form of dyschezia of functional origin, there is hardly one that has met with such instant approbation and acceptance by discriminating physicians as

AGAROL

A reasonable test of this scientifically balanced combination of pure mineral oil, agar-agar and phenolphthalein in some severe case of constipation will enable the practitioner to understand why Agarol is winning the regard and confidence of a constantly increasing number of medical men. He will find that Agarol

1st—*produces* prompt and satisfying bowel evacuations;

2nd—*increases* the bulk, softness and plasticity of the fecal mass;

3rd—*imparts* functional tone and power to the intestinal muscles;

4th—*restores* functional activity of the bowels so that satisfactory evacuations will follow regularly and continue without the need of further medication.

Agarol is not only a palliative of intestinal torpor — it is a true bowel corrective.

WILLIAM R. WARNER & CO., INC.
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What they will eat

Prescribe Puffed Grains to coax appetite back

WHEN convalescents refuse to take an interest in food, Quaker Puffed Grains often help coax back appetite.

Puffed Wheat and Puffed Rice are tempting dainties when offered with sugar and cream, or floated in a bowl of milk. They are so light, so airy, so delicately fragile, that it is hard to realize that they are such nutritious grains—rich wheat and rich rice — steam exploded to eight times normal size!

This breaking up of every tiny food cell assures easy digestion and assimilation. And, equally important, enjoyment of Puffed Grains encourages the liberal allowance of cream and milk so necessary in body-building.

Children enjoy Puffed Wheat and Puffed Rice, regarding them as confections which they are allowed to eat without restraint. When your little patients rebel at their daily allowance of what seems to them plainer, heartier food, advise mothers to make breakfast and luncheon seem more attractive by the introduction of Quaker Puffed Grains.

Quaker Puffed Wheat
Quaker Puffed Rice

Dependability

Thousands of human lives are often dependent on the beacon light shining forth to guide and protect ships passing in the storm. The light must never fail.

Likewise the Medical Protective Company is depended upon by tens of thousands of your colleagues, who have placed their confidence in our service, to guide and protect them through the "storm" of a malpractice action.

The expense, annoyance, and loss sustained in but one suit may easily destroy the accumulation of a lifetime of practice.

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Have a
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The
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of
Fort Wayne, Indiana

Facetiae Medicorum

There was a rumor about recently to th effect that a famous surgeon was recentl seen trying to put his chin on a youn girl's shoulder.

"She has decided to marry a strugglin young dentist."

"Well, if she has decided, he may as wel stop struggling."

A sturdy Scotsman had been having dispute with his wife. He had taken refug under the bed. As she stood on guard, wit a stick in her hand, he called lustily fron his retreat:

"Ye can lam me and ye can bate me, bu ye canna break ma manly speerit. I'll na come oot."

"Ma, is Dr. Jones an awfully old man?"

"No, dear, I don't believe so. Wha makes you ask?"

"Well, I think he must be, because heard dad say last night that Dr. Jone raised his ante."

"Jonas," ordered the farmer, "all th clocks in the house have run down, wish you'd hitch up and ride down to the junc tion and find out what time it is."

"I ain't got a watch. Will you lend m one?"

"Watch—watch! What d'ye want watch fer? Write it down on a piece o paper!"

"Mother, have you got a nickel for a poor old man?"

"Where's the poor man, my son?"

"Down at the corner selling ice cream cones."

"What are you doing at the information booth?"

"I wanted to find out something."

"You can't find out anything at the in formation booth."

"That's what I found out."

Open Faced

Suitor to little girl: I'll give you a pretty pin if you will leave the room and let you sister and me alone.

Little girl: I don't want a pin. I want a watch.—Yellow Jacket.

Chicago Maternity Hospital and Training School for Nurses and Midwives

Address DR. EFFA V. DAVIS
512 Wrightwood Ave.
CHICAGO

Whatever Your Question

Be it the pronunciation of **vitamin** or **marquisette** or **soviet**, the spelling of a puzzling word—the meaning of **overhead, novocaine,** etc., this **"Supreme Authority"**

Webster's New International Dictionary

contains an accurate, final answer. 407,000 words. 2,700 pages. 6,000 illustrations. Constantly improved and kept up to date. Copyright 1924. Regular and India Paper Editions. Write for specimen pages. prices, etc. **Cross Word Puzzle** workers should be equipped with the New International, for it is used as the authority by puzzle editors.
FREE Pocket Maps if you name Chicago Medical Recorder.

G. & C. MERRIAM COMPANY
Springfield, Mass., U. S. A.

Oats Now the Quickest Breakfast —Doctor!

Will you help us spread the news?

HOT OATS porridge — rich, nutritious, sustaining — can now be served in three to five minutes!

We rely on you, Doctor, to help us tell wives and mothers this.

Quick Quaker is a new Quaker Oats —the same reliable Quaker they have always used. Only, now *quick-cooking.*

Quick Quaker is ready for the table even before the coffee.

In all, Quick Quaker settles the breakfast problem in every way.

Its food value you know as well or better than do we. That's why we're delighted to offer physicians Quaker Oats made quick-cooking.

Standard full size and weight packages—
Medium: 1¼ pounds;
Large: 3 pounds, 7 oz.

Cooks in 3 to 5 minutes

The kind you have always known

French Lick Springs Hotel

—*the ideal location for your next convention*

Here, the participants at the convention are all housed under one roof. They are within three minutes walk of the hotel when they arrive at the picturesque French Lick railroad station. They are constantly available at all hours for regular or emergency business sessions. And business is transacted in the well-lighted and ventilated large new convention auditorium with its seating capacity of 1500 and its adjacent large private hall and committee rooms for special displays or sectional meetings.

Wide Variety of Diversions

These conveniences mean that regular business is finished more quickly, allowing everybody more time than usual for indulgence in the various amusements and diversions with which French Lick Springs is so adequately supplied.

Two 18-hole golf courses; one, the easy, older course practically at the hotel doorstep; and the other, the famous championship Upper Course, a few minutes bus ride distant, offer convention participants ample opportunity for private play or for organization tournaments.

Among other attractions are two well-kept tennis courts and a fine stable of thoroughbred riding horses ranging in temperament from the very spirited to the most docile; while the surrounding country-side, with its beautiful winding trails, adds new delights to horseback riding or tramping afoot.

In the hotel building is every approved type of therapeutic bath in addition to swimming pools, one for men and one for women.

Write Now for Further Details

Every season is a good season at French Lick Springs; so, no matter what time of year your convention will be held, it will be of value for you to find out everything there is to learn about this accessibly located convention site. Remember, rooms and meals are included in the rate you pay which means that expenses can be gauged almost to the dollar in advance. Write today. Your time will be saved if you give as much data about your requirements as possible in your letter of inquiry.

ADDRESS CONVENTION SECRETARY

FRENCH LICK SPRINGS HOTEL CO., French Lick, Indiana

"The Home of Pluto Water"

ELECTROLYSIS

For Superfluous Hair

The only permanent cure known for superfluous hair, moles, warts, etc. I Positively Guarantee My Work to be Permanent. No Pains or Scars. I use Multiple Electrolysis (many needles), the quickest, cheapest and most reliable of all electric needle methods. Special attention to cases referred to me by physicians.

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Sterile, Antiseptic, Non-Irritant

Use NEET—A bland cream that removes hair without irritating the skin.

In favor with many of the medical profession for depilating in preparation for delivery. Especially valuable if patient insists on home confinement.

Useful in preparation for all abdominal operations or operations on the pubic region.

Indicated where simple ulcers on vulva make shaving difficult and painful.

Relieves patient of the discomfort and risk attending the use of a razor.

Incoming growth is slower to reach the surface than if shaved, and is softer and finer than growth following the use of a razor.

A full size trial tube with complete instructions for use will be mailed without charge to any physician requesting it.

HANNIBAL PHARMACAL CO.,—612 Locust St.,—St. Louis, Mo.

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Sanmetto

A CALMATIVE FOR ARDOR URINAE IN

- URETHRITIS GONOCOCCUS
- URETHRITIS NON-SPECIFIC
- CYSTITIS
- DYSURIA
- PROSTATITIS
- VESICULITIS
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ALWAYS SOOTHING TO THE MUCOUS MEMBRANES OF THE UROGENITALS

SAMPLES TO PHYSICIANS ONLY

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Will take patients who wish to work for expense, also pay patients.

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X-RAY DEPARTMENT—most modern and completely equipped, including the interpretation of an Expert Roentgenologist, if desired, with Twenty Years Experience.

DRUGS AND MEDICINES analyzed for Strength—Purity—Composition.
Disinfectants and Germicides examined for Strength.
Sanitary problems studied and corrected.
Water and Milk Analyzed.

A LABORATORY OF PROGRESS—qualified to satisfactorily Solve Manufacturing and Industrial Problems; Investigate Patent and Legal Affairs; Analyze Foods, Flour, Grain, and Feed for Quality, Purity and Composition.

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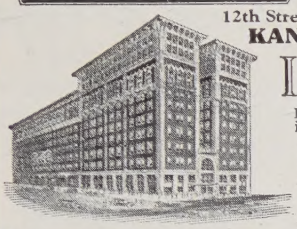

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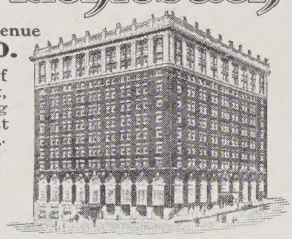

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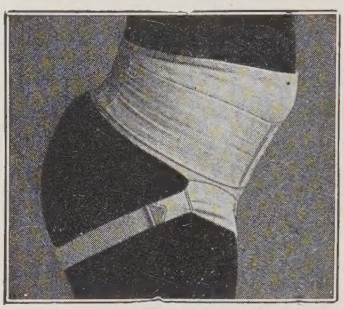

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